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THE FIRST HUNDRED YEARS

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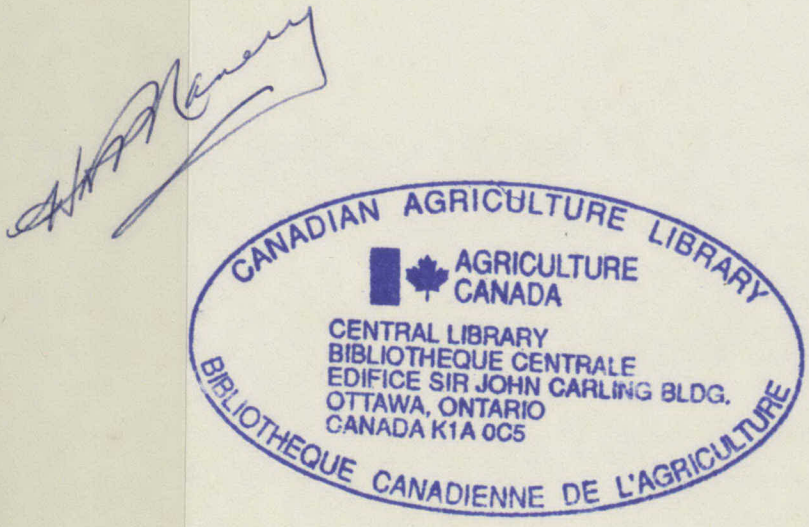
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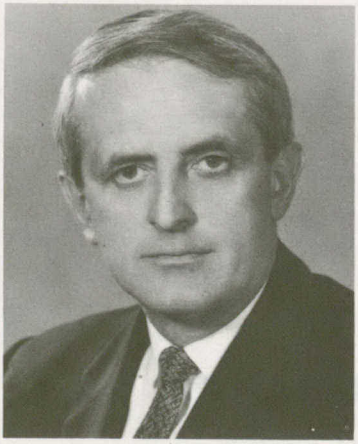
The First Hundred Years



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R. Glen —
Assistant Deputy Minister
(Research)

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Assistant Deputy Minister
(Production and Marketing)

1967

CANADA AGRICULTURE

The First Hundred Years

Historical Series, No. 1

CANADA DEPARTMENT OF AGRICULTURE

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PART I The Early Years 1867-1900

Time is relative. In the life of the Universe a hundred years is but the briefest moment; with the Canada Department of Agriculture a century comprehends the whole period of its existence. During that span of years the Department has grown from a handful of clerks in an Ottawa office to a great army of experts, trained in every branch of agricultural science and supported by an organization that serves the agricultural industry in all parts of Canada. In 1867 the Departmental staff numbered 27. Fifty years later more than 1,000 were employed, exclusive of laborers. Today some 11,000 serve the Department; a fifth of this number are trained professionals. On the threshold of its second century the Department of Agriculture can look back on its accomplishments with some pride and face the future with confidence in its ability to serve an expanding and increasingly complex industry.

The history of any organization is largely the story of events in relation to time and place. A straight chronology will tell of the happenings but it does little to illuminate the circumstances and conditions of the times. This account attempts to record the major events in the life of the Department during the past one hundred years and to describe the situations that prompted adoption of certain policies, their impact on the industry, and the public reaction to them.

The story seems to separate itself naturally into five parts, although there is a certain amount of overlapping. The first covers the period from Confederation to the end of the Century. During these years a start was made on an animal health program; experiments in agricultural practices were being conducted by the Experimental Farms; and dairying and livestock were receiving attention.

The second period, from 1900 to the end of the First World War, saw the enactment of the basic legislation under which the Department now operates. Branch experimental farms were established in all the provinces. The Department made important contributions to the war effort, and activities extraneous to agriculture were sloughed off.

In the third period, up to 1937, the completion of the organization under the Branch structure was accomplished. Staff and program expanded, with a more positive approach to scientific research. The first marketing legislation was passed, and the economics of agriculture began to receive more attention. Toward the end of the period, massive new programs were required to rehabilitate the agricultural industry that had been ravaged by prolonged drought and world-wide depression.

The fourth period begins with the reorganization into Services and covers the immediate pre-war and wartime years. During this time tremendous expansion of Departmental activity occurred. Rehabilitation programs were broadened, advances in mechanization facilitated increased production, and new marketing practices were adopted.

In the post-war years new research establishments sprang up all across the country. Measures for the stabilization of prices, for expanded credit, crop insurance, and for other forms of assistance, were added to

the list of Departmental responsibilities, along with the work of the Board of Grain Commissioners. And on top of all this, a regrouping of the forces within the Department sought to bring them in tune with the needs of today.

Now to the Story Itself

The beginnings were small indeed. Prior to Confederation, a Bureau of Agriculture had functioned in the Province of Canada under a Minister, but reports for the early 1860's indicate that conditions within the Bureau were unsatisfactory. One such report contained the statement that "The surest remedy for the defects in its management would be the appointment of a permanent Deputy head, qualified in respect of the acquirements more particularly connected with the objects of the Department."

At the time of Confederation the British North America Act had recognized the need for clearly defining the respective powers of the provincial and federal authorities in the field of agriculture and Section 95 of that Act provides that "In each Province the Legislature may make Laws in relation to Agriculture in the Province, and to Immigration into the Province; and it is hereby declared that the Parliament of Canada may from Time to Time make Laws in relation to Agriculture

Dr. J. C. Taché

First Deputy Minister of the Department of Agriculture. He resigned from the position in 1888 after serving for 21 years.

in all or any of the Provinces, and to Immigration into all or any of the Provinces; and any Law of the Legislature of a Province relative to Agriculture or to Immigration shall have effect in and for the Province as long and as far only as it is not repugnant to any Act of the Parliament of Canada."

The Act for the organization of the Department of Agriculture was passed by Parliament and assented to May 22, 1868. This Act, amended from time to time, is the authority under which the present Department operates. The first Minister to preside over the new Department was the Hon. J. C. Chapais, a Senator. The first Deputy Minister was Dr. J. C. Taché, who had been Deputy head of the former Bureau of Agriculture. The Act provided that:

1. There shall be a Department, called "The Department of Agriculture," over which the Minister of Agriculture, for the time being, appointed by Commission under the Great Seal, shall preside; and the said Minister shall have the management and direction of the Department and shall hold office during pleasure.

2. The Governor may appoint a Deputy of the Minister of Agriculture, and such other officers and clerks as may be required for the proper conduct of the business of the Department, all of whom shall hold office during pleasure.

3. It shall be the duty of the said Deputy, and he shall have authority (subject always to the Minister) to oversee and direct the other officers and servants of the Department; he shall have the general control of the business of the Department, and such other powers and duties as may be assigned to him by the Governor in Council, and in the absence of the Minister and during such absence, may suspend from his duties any officer or servant of the Department who refuses or neglects to obey his directions as such Deputy.

4. The duties and powers of the Minister of Agriculture, shall extend to the execution of laws enacted by the Parliament of Canada, and of orders of the Governor in Council, relating to the subjects enumerated in the following section, as well as to the direction of all public bodies, officers and servants employed in the execution of such laws and orders.

5. The following subjects shall be under the control and direction of the Department of Agriculture, viz:

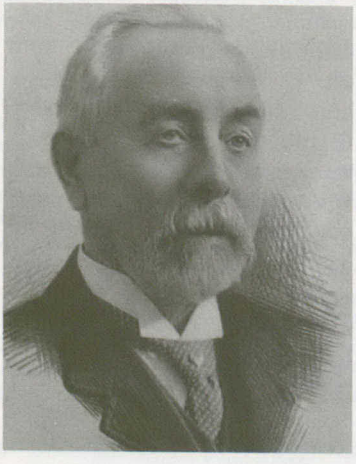
1. Agriculture;
2. Immigration and Emigration;
3. Public Health and Quarantine;
4. The Marine and Emigrant Hospital at Quebec;
5. Arts and Manufactures;
6. The Census, Statistics and the Registration of Statistics;
7. Patents of Invention;
8. Copyright;
9. Industrial Designs and Trade Marks.

6. The Governor in Council may at any time assign any other duty or power to the Minister of Agriculture, and may also assign any of the duties or powers hereinbefore enumerated to any other Member of the Privy Council of Canada.

7. The Minister of Agriculture shall make and submit to the Governor an annual report of the proceedings of his Department, to be laid before both Houses of Parliament within twenty-one days from the commencement of each session.

8. The Act of the Legislature of the late Province of Canada, passed in the twenty-fifth year of Her Majesty's Reign, chapter seven, is hereby repealed,—and all laws or parts of laws inconsistent with this Act, in so far as they are inconsistent herewith, are also repealed.

Amongst so many responsibilities it would be difficult to see how a Minister could give much thought to agriculture. But obviously the subject was not neglected for in 1869, just a year after the Department had been formally constituted, an "Act Respecting Contagious Diseases of Animals" was passed. This was aimed at preventing the introduction of rinderpest and other contagious diseases of livestock that were then prevalent in Europe. Under this Act, provision was made for the inspection of livestock entering Canada through the various maritime ports. Before long inspection ports and quarantine stations had been established along the International Boundary as well.



Prof. Duncan McEachran

Served as Chief Veterinary Inspector of the Department while holding the the position of Dean of the Faculty of Comparative Medicine at McGill University.

Besides keeping out pests from abroad, the Department concerned itself with the eradication and control of diseases already existent in Canada and thus was laid the foundation of our animal health policies. Although amended many times over the years to meet expanding needs, this early legislation still forms the cornerstone of Canada's program for maintaining the health of our livestock.

At this point it would be desirable to take note of the general situation within the country in those early years, particularly with respect to agriculture. The great expanse of country known as the Northwest Territories was acquired by Canada in 1868. The four provinces of Ontario, Quebec, New Brunswick, and Nova Scotia that formed the original confederation, were joined in 1870 by Manitoba, in 1871 by British Columbia, and in 1873 by Prince Edward Island. These events opened up for settlement a huge area of potential farm land.

It was the diversity of conditions in the expanded confederation that sparked the next important development within the Department.

In Europe, where agriculture had been established for centuries, experience and tradition could be brought to bear on farm problems. In Canada this was not the case. Short seasons, a rigorous climate, unfamiliar soil types, and many other problems were being encountered and the individual farmer had neither the means nor the resources to work out his own solutions. It was clearly a case for government action.

Parliament Takes Action

In January, 1884, a Select Committee of the House of Commons, headed by G. A. Gigault, M.P., was appointed to look into the need for agricultural improvement. Parliament appropriated $20,000 for preliminary investigations, and one of the early recommendations of the Committee was the establishment of an experimental farm. In the following year, Professor William Saunders of Northwestern University, London, Ont., was appointed to investigate further, particularly with reference to the experiment stations of the United States. His report, dated February 20, 1886, recorded fully what was being done in that country, and touched on similar work elsewhere in the world. It recommended that a similar experimental station project be undertaken in Canada.

William Saunders

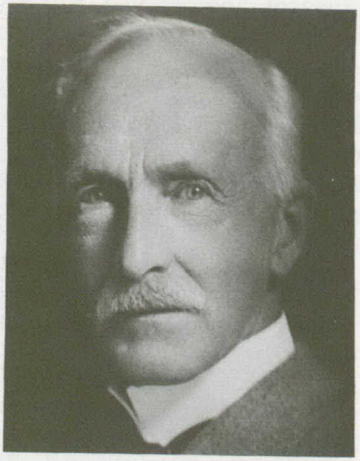
Played a prominent part in the establishment of the Experimental Farms and served as Director for 25 years.

Mr. Saunders' report was presented to the House of Commons on April 15, 1886, by the then Minister of Agriculture, the Hon., later Sir, John Carling. So well was it received that a bill entitled "An Act Respecting Experimental Farm Stations" was introduced, passed, and given Royal Assent on June 2. This Act provided for the establishment

of five experimental farms; one at Ottawa, to serve Ontario and Quebec, was to be the principal or central farm.

The First Director Appointed

William Saunders was appointed Director on October 12, 1886, and land was purchased for the Ottawa farm. He then proceeded to select sites for the branch farms at Nappan, N.S.; Brandon, Man.; Indian



Dr. Frank T. Shutt

Appointed as Dominion Chemist at the inception of the Experimental Farms. He brought quantitative research and experimentation to Canadian agriculture.

Head, Northwest Territories; and Agassiz, B.C. The purpose of these farms was to carry on experimental and investigational work in connection with livestock breeding, dairying, field husbandry, horticulture, and entomology, in order to discover methods, breeds, and varieties best suited to the different parts of Canada. Information obtained from these experiments was to be published in bulletin form for popular distribution. Chief assistants to the Director were James Fletcher, who had been appointed as Entomologist in 1884, and Dr. Frank Shutt, a chemist.

Early activities of the Experimental Farms largely comprised the testing of varieties and cultural methods, and building up a body of agricultural knowledge applicable to local conditions. The practice was adopted of distributing samples of improved varieties for trial and this had a beneficial influence on the general quality of crops harvested.

One of the early recommendations from the Indian Head Farm that had important effects on the Prairies was that of summerfallowing the land to assure a crop in dry years. Although changed conditions later on necessitated a different recommendation because of the danger of soil drifting, for many years the practice of alternate cropping and

Members of Parliament visit the Central Experimental Farm in 1890.

summerfallowing was the best insurance against crop failure from drought.

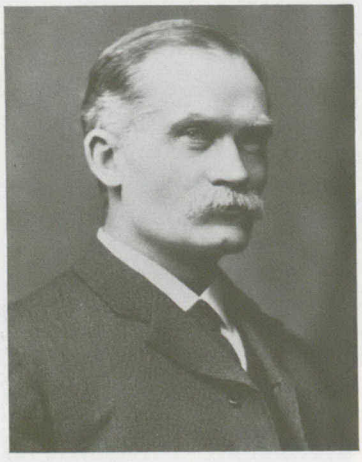
Some Were Critical

Farmers generally welcomed the advent of the Experimental Farm, but there were those who doubted its value. One bitter critic asked what the Dominion Government had to do with agriculture and recommended that the provincial governments deal with it. "We have carefully consulted farmers on every side," he went on, "they are unanimous in their opinion that it is an experiment ten times more costly than profitable, that it serves neither for ornament nor use, but only to assist in beggaring the people. No practical farmer can adopt its plans unless he has an income behind it to carry out the projects, and then he would be the loser every year. . . . Sell the farm, and pension the experimenters who would never earn their salt on that place."

Happily this advice remained unheeded and the Experimental Farm turned out to be quite an attraction for the farmers of the surrounding counties. Typical of many such excursions to the Farm was one on July 18, 1890, attended by Members of Parliament and over 60 Ottawa Valley farmers.

"On arrival at Ottawa the party enjoyed dinner at the Grand Union,

after which hacks were secured and all drove out to the farm, which is situated in a beautiful location on the rising ground a couple of miles from the centre of the city. Prof. Saunders, director of the Government Experimental Farms, met the party and with his assistants went to great trouble in showing up the interesting features connected with the Farm. There are in all 465 acres. The staff consists of about 40 men. . . . Much interest was manifest in the experiments that are constantly being



Dr. James Robertson

Appointed in 1890 as the first Dairy Commissioner. He also served for a time as Agriculturist at the Central Experimental Farm.

made in every branch of the farm and many 'pointers' were given our agricultural friends that cannot fail to prove of practical benefit to them in future. Three hundred different varieties of potatoes were sown this season; about 100 varieties of wheat; 100 of oats; 80 of barley; and so on in all the other branches. The results of the experiments thus carried on are made known regularly by pamphlets, which should be of great value to the country. . . . The party drove back to the city and the bulk of the crowd returned home by the midnight train."

Dairy Branch Organized

Up to this time there were but two branches, Veterinary and Experimental Farms, within the Department. In April, 1889, delegates from the various Dairymen's Associations assembled at Ottawa. One result of this convention was that the Department extended its activities to cover the dairy industry. Dr. James Robertson was appointed to the office of Dairy Commissioner and at the same time was named as Agriculturist at the Central Experimental Farm. He occupied both positions until 1896 when he resigned from the Farm staff to devote full time to the duties of Dairy Commissioner.

Amongst the tasks assumed by the new Dairy Branch was that of

acquainting farmers with the best and most economical methods of manufacturing butter and cheese, and of feeding cattle for milk production. Experimental dairy stations were also planned and provision for these was made in 1891. A "Dairy Products Act," passed in 1893, provided for the branding of dairy products and prohibited the sale of filled or imitation cheese.

New Activities Undertaken

By 1895 the Dairy Branch had greatly extended its field of activity. Investigations were conducted into the export possibilities for Canadian apples, bacon, and other pork products. Arrangements were made by the Department for the fitting up of insulated and refrigerated chambers in steamers to British ports, and trial shipments of butter and cheese were made with excellent results. Experimental shipments of fruit under cold storage were also made but further improvements were found to be necessary before the operation could be considered commercially successful.

To stimulate development of the dairy industry, a policy was introduced to provide financial aid for the establishment of creameries in areas where none existed, particularly in the Northwest Territories.

F. W. Hodson

Chosen in 1899 as Livestock Commissioner in charge of the newly established Livestock Branch.

This was followed in 1897 by further legislation dealing with the registration of cheese factories and creameries and the branding of dairy products. In the same year the Dairy Commissioner visited Britain in the interests of promoting trade in Canadian dairy products.

A further extension of the activities of the Dairy Branch came about in 1899 when a Livestock Commissioner was appointed to give special attention to the livestock industry.

Animal Health Services Expanded

The year 1894 was highly significant in the history of the Department. It was then that the initial steps in the fight against bovine tuberculosis were taken. This disease had made itself apparent, and in an effort to bring it under control the first testing with tuberculin was undertaken at the Central Experimental Farm. In the beginning, infected animals represented a complete loss to the owners. In 1904, however, the Animal Contagious Diseases Act was amended to allow for the payment of compensation to the owners of animals slaughtered under the provisions of the Act.

In 1897 the Canadian and United States governments reached an agreement whereby the Department of Agriculture of either country would notify its opposite number in the event of any outbreak of contagious disease among livestock within the country. This agreement was followed by the withdrawal of the previous requirement of a 90-day quarantine against livestock entering either country from the other. At the same time a system of inspection before export by official veterinarians was started.

Dr. James Fletcher

Appointed in 1884 as the first Entomologist. In 1887 he was placed in charge of entomology and botany in the Experimental Farms Branch where he served until his death in 1908.

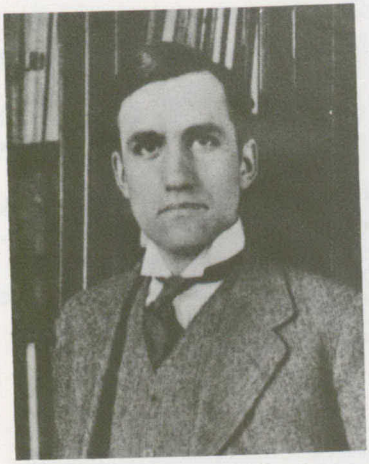
Insect Control Begun

Prior to his appointment to the staff of the Central Experimental Farm, Dr. James Fletcher had been working as a government entomologist and giving attention to the control of insect pests in Canada. The first legislation relating to insect control was the "San Jose Scale Act," passed in 1898, providing for a system of inspection and quarantine designed to prevent the spread of this injurious pest.

Amendments to the Experimental Farm Stations Act, passed in 1900, paved the way for extensions to the branch farm system, but more of that later.

PART II The New Century 1900-1919

When the 20th Century opened there were still only three branches dealing with agriculture in the Department — Veterinary, Experimental Farms, and Dairy — but expansion was not long in coming. These were the years when European immigrants, lured by the prospect of free land, flocked to the Western Prairies. Thus, some 20 years after the establishment of the five original Experimental Farms, the need for additional ones became apparent, particularly in the West where the two new provinces of Alberta and Saskatchewan had just joined Confederation.



Dr. C. G. Hewitt

Appointed Dominion Entomologist in 1909. He had a large hand in framing the Destructive Insect and Pest Act.

New stations in Alberta were located at Lethbridge in 1906; at Lacombe in 1907; and at Fort Vermillion in 1908, the last on leased land. Stations at Rosthern, Sask., and Charlottetown, P.E.I., were opened in 1909; and at Scott, Sask., Ste. Anne de la Pocatière, Que., and Kentville, N.S., in 1910. In 1911 the Cap Rouge, Que., and Invermere, B.C., stations were started.

A Tobacco Branch had been organized in 1905 for the purpose of encouraging and assisting the development of the tobacco industry in Canada. Felix Charlan, an officer of the French Government, was brought to Canada to take charge of the Branch. In 1912 the work of this Branch was transferred to the Experimental Farms organization, becoming the Tobacco Division. Included in the transfer were the tobacco stations at Farnham, Que., and Harrow, Ont. During the same year Experimental Stations were opened at Fredericton, N.B., and Saanichton, B.C., while a plant pathology laboratory was opened at St. Catharines, Ont., to work on fruit diseases. At this time, too, the Agri-

culturist's Division at the Central Experimental Farm was split into Animal Husbandry and Field Husbandry.

New stations were added in 1914 at Summerland, B.C., Morden, Man., and Lennoxville, Que.; and some experimental work was begun at Beaverlodge, Alta. In the following year stations were started at Kapuskasing, Ont., and La Ferme, Que.; and plant pathology laboratories were opened at Charlottetown and Fredericton. More laboratories were added at Brandon and Indian Head in 1916 to study crop diseases.

The divisional structure of the Experimental Farms Branch was further increased by the addition of the Illustration Stations Division in 1915 and the Economic Fibre Division in 1916.

Entomology and Botany Separated

After serving for more than 20 years as entomologist and botanist at the Central Experimental Farm, James Fletcher died in 1908. The following year the work was divided, with Dr. C. G. Hewitt being appointed as Dominion Entomologist and Mr. H. T. Gussow as Dominion Botanist.

The Destructive Insect and Pest Act, passed in 1910, took the place of the San Jose Scale Act and made broad provision for such inspection and quarantine measures as might be necessary for the control and eradication of injurious insects and plant diseases. Work in entomology, hitherto a responsibility of the Experimental Farms, was

Dr. H. T. Gussow

Appointed as Dominion Botanist in 1909 and head of the newly formed Botany Division of the Experimental Farms Branch.

turned over to a new Entomology Branch, created in 1914. This Branch assumed the administration of the Destructive Insect and Pest Act and

undertook investigations into the control of insect pests attacking farm crops, animals, and man.

Within a year or two the Entomology Branch opened a number of regional laboratories in different parts of the country and by 1916 work was being carried on at nine different locations in addition to the Ottawa laboratory. These were: Annapolis Royal, N.S.; Fredericton, N.B.; Hemmingford, Que.; Vineland and Strathroy, Ont.; Treesbank, Man.; Lethbridge, Alta.; Agassiz and Vancouver, B.C.

Changes in the Dairy Branch

Under the Dairy Branch, a Seed Division was organized in 1902. Its initial purpose was to conduct investigations into the quality and quantity of seed grains and grasses produced in the country. The first seed laboratory, located at Ottawa, was established in 1903, for the purpose of testing seeds for germination and purity. The Canadian Seed Growers Association, organized in 1904 to promote the production of good seed, was assisted by means of annual grants. In 1905 the Seed Division was established as a major unit and became a Branch with George H. Clark as Seed Commissioner. Added duties were to encourage the growing of selected, good-quality seed of field crops, and to work toward permanent improvement in the quality of the various seeds sold in Canada. In the same year, the Seed Control Act provided for the control of seed quality. A second seed laboratory, located at Calgary, Alta., was established in 1906. Twelve years later a third laboratory was opened at Winnipeg, Man.

George H. Clark

Named as Seed Commissioner when the Seed Branch was established in 1905.

The fruit industry came under the wing of the Dairy Branch in 1901. In that year the Fruit Marks Act was passed, providing for the

standardization of fruit grades and the placing of grade marks on fruit packages. A staff of inspectors to administer this Act was appointed to the Dairy Branch and at the same time, in an effort to ensure proper control of temperature and storage conditions, the Branch established a system of cargo inspection of perishable products shipped overseas. The first Dominion-wide conference of fruit growers was held in 1906.

By 1902 the Department was giving encouragement to agricultural fairs and exhibitions through grants administered by the Livestock Division of the Dairy Branch. Three years later the Division was separated from Dairy and became a Branch. F. W. Hodson, formerly Superintendent of Farmers Institutes in Ontario was named Livestock Commissioner. Amongst the matters entrusted to the new Livestock Branch were the improvement of the livestock industry in general, including poultry; the encouragement of agricultural societies and institutes; and assistance to agricultural fairs.

Other Changes

The Census and Statistics Office was removed from the jurisdiction of the Department of Agriculture in 1912 and transferred to Trade and Commerce. About the same time a Publications Branch was organized to look after the distribution of publications of the Department and also to deal with matters relating to the International Institute of Agriculture to which organization Canada belonged. This Branch also provided the nucleus of the Departmental Library.

In 1914 the Fruit Branch became a separate entity, divorced from the Dairy Branch, and assumed charge of all activities relating to the picking, packing, transportation, and marketing of fruits. Mr. Donald Johnston was named Fruit Commissioner in charge of the Branch.

Legislation on Meat and Canned Foods

In 1907 the Meat and Canned Foods Act was passed, establishing the inspection service covering meat packing plants and canning factories. The inspection of carcasses by Departmental veterinarians revealed a widespread incidence of tuberculosis amongst cattle and hogs and two years later an International Commission was appointed to investigate the spread of this disease. Canada's Veterinary Director General of the day, Dr. J. G. Rutherford, acted as Chairman of the Commission.

Problems with Animal Health

Almost from its inception the Department had been concerned about the health of Canada's livestock. A program of research into the control of animal diseases was started in 1902 when a Biological Laboratory was established on the grounds of the Central Experimental Farm, but under the charge of the former Veterinary Branch, by that time named the Health of Animals Branch.

Tuberculosis infection in cattle continued to be a matter of concern. In 1907 the Minister, the Hon. Sydney Fisher, wrote, "Bovine tuber-

culosis continues to exist to a greater or lesser extent in a number of different localities throughout the Dominion, and several times during the past year I have been asked to adopt a more aggressive policy in dealing with the disease than that now followed by officers of my Department. . . . Until some method involving a less serious economic loss than that inseparable from a policy of compulsory testing and slaughter

Dr. J. G. Rutherford

The first officer to hold the title of Veterinary Director General; he served also as Livestock Commissioner for a number of years.

is discovered, I do not think that much more can be done than we are at present doing."

Some advances were made, however. An amendment to the Animal Contagious Diseases Act in 1914 established the Municipal Tuberculosis Testing Order. This made provision for the testing of all dairy cattle supplying milk to municipalities that complied with the order. All cattle reacting to the test were to be slaughtered and the owners compensated. But progress was slow. Commenting on the situation three years later the Hon. Martin Burrell, then in charge of the Department, said, "I fully realized that owing to the fact that public sentiment is not favorable for the adoption of drastic legislation, suitable control measures must be developed in a progressive way. . . . So far my Department has only had the opportunity of assisting one municipality."

But the adoption in the United States of an accredited herd plan for tuberculosis control was making it more difficult for Canadian breeders to ship cattle to that country and this circumstance led to the adoption of a similar plan in Canada. In his report for the year 1919-20 the Veterinary Director General remarked, "It was soon apparent to me that this Department must inaugurate a similar plan." On September

20, 1919, the necessary regulations were approved "for the establishment and maintenance of tuberculosis-free accredited herds of cattle."

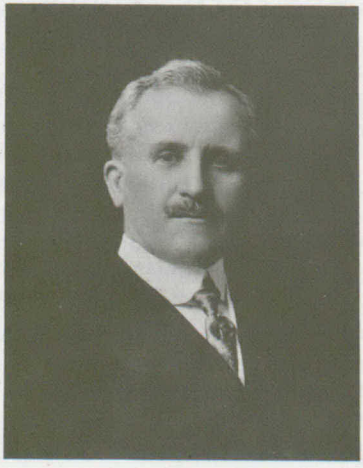
Livestock Records Centralized

Toward the end of the Century, Canada's trade in purebred livestock was becoming well established and in order to assist it, the Department took steps to have the Canadian herd and stud books properly recognized in other countries.

In 1900 an Act was passed to provide for the incorporation under federal charter of the various breed record associations. Then in 1905 an amendment to the Act Respecting the Incorporation of Live Stock Records permitted the bringing together of the Canadian National Livestock records in a central office, under financial assistance from the Department. A provision of the amended Act required that not more than one association for each distinct breed of horses, cattle, sheep, and swine could be incorporated under federal charter. The Holstein Friesian Association did not join with the other organizations but elected to remain independent.

A new policy adopted by the Livestock Branch in 1913 was designed to encourage the breeding of better livestock through the use of purebred sires. The Branch undertook the purchase of superior sires and loaned them to associations of farmers, particularly in newly settled areas. The wool-growing industry was also given assistance in the form of demonstrations in grading and packing wool for market.

In the interests of egg producers, the Department conducted a vigorous campaign to improve production by recommending to the wholesale trade the adoption of a system of payment on a quality basis. Other measures included encouraging the formation of co-operative



J. A. Ruddick

Appointed Dairy and Cold Storage Commissioner in 1906.

marketing associations among the producers, and consumer education in the appreciation of quality in eggs.

Performance Testing Begun

Record of Performance testing of purebred dairy cows for production of milk and fat was started in 1906 and a number of cow-testing associations were formed in Ontario and Quebec as a result of cow-testing begun two years earlier by the Dairy Branch. In that year, too, the jurisdiction over creameries formerly exercised by the Department was transferred to the provincial governments.

In 1907 the Cold Storage Act, providing assistance toward the erection and equipment of public cold storage warehouses, was passed.

Agricultural Instruction Act Passed

A valuable contribution to the cause of agricultural education was provided by the Agricultural Instruction Act, passed in 1913. This made available the sum of $10 million to be paid to the various provinces over a ten-year period. The object of the grants was to assist the provinces to improve the efficiency of their agricultural colleges, to establish agricultural schools, and to undertake such other types of agricultural instruction as seemed desirable.

Dr. C. C. James

Commissioner under the Agricultural Instruction Act from the time of its passage in 1913 until his death three years later.

Marquis Wheat a Boon to the West

The opening up of the Western Prairies revealed the need for earlier-ripening, good-quality wheats to supply the growing export trade. Crosses made in 1892 between an early-ripening wheat from India and

the popular Red Fife gave rise to the world-famous Marquis variety. Because of the early-ripening characteristic it greatly extended the area where wheat could be grown safely.

Marquis was introduced for trial in 1907 and ten years later it accounted for nearly 90 per cent of the total acreage of wheat grown in Canada. Although it has been largely superseded by newer varieties, Marquis is still the standard of quality by which other varieties are judged. During its period of popularity it was responsible for the creation of millions of dollars worth of new wealth that would not have been possible without it. Credit for its creation belongs to the Saunders family. William Saunders probably made the original crosses. His son Percy had a hand in its development, but it remained for another son, Charles, to do the final selecting and he is generally regarded as the father of Marquis.

A tribute to the all-round excellence of Marquis wheat appears in the Annual Report of the Minister of Agriculture for the year 1918. Says the report, "As usual, this extraordinary variety again won the highest international award last season, and, in addition, it created what is probably a world's record for the yield of spring wheat on a large field, when a farmer in southern Alberta harvested 54,395 bushels from 1,000 acres of land. Such a magnificent yield would scarcely be credited were it not properly attested by trustworthy persons."

In 1911 Dr. William Saunders, who had served as Director since the inception of the Experimental Farms, resigned and was succeeded

Dr. J. H. Grisdale

Agriculturist at the Experimental Farm, he was named Director of the Branch in 1911 and in 1919 was appointed Deputy Minister, serving in that capacity until 1932.

by Dr. J. H. Grisdale, the former Agriculturist. Dr. Saunders was largely self-educated, but he achieved distinction in the fields of botany, ento-

mology, plant breeding, horticulture, materia medica, and manufacturing chemistry. During his term as Director, the Experimental Farms expanded from a modest beginning until they were spread all across the country. Although the greatest single achievement during his regime was probably the development of Marquis wheat, there were many other first-rate contributions, not only in the field of cereal breeding but in the development of hardy varieties of fruits adapted to Western Canada as well as many other useful field and garden plants.

In expressing appreciation for his work, the Minister, the Hon. Sydney Fisher, said, "Dr. Saunders has performed the duties of his office faithfully and zealously and has rendered distinguished service in the development of agriculture that has taken place in the Dominion during the past quarter of a century."

Potato Certification

The danger of introducing potato wart disease from Europe prompted, in 1912, an amendment to the Destructive Insect and Pest Act to prohibit the importation of potatoes from that continent. Two years later the Botany Division of the Experimental Farms Branch began a system of inspection of potatoes for export. This was brought about by an agreement with the United States whereby that country undertook to raise an embargo placed the year before against Canadian potatoes because of powdery scab. Potatoes shipped from Canada were to be admitted on condition that they were certified free of this disease.

From this early experience developed the certified seed potato program, based on field inspection and subsequent examination of the tubers. This not only improved the quality of the seed stock planted in Canada but helped materially to create a good export market for Canadian certified seed potatoes. The seed potato certification program is now a responsibility of the Plant Protection Division.

War's Demands Affect Department

Following the outbreak of war in 1914, the Department undertook, at the request of the British authorities, the purchase of certain food supplies. The organization necessary for this purpose was supplied by the Dairy Branch. That the work was in capable hands is evident from a comment by the auditors appointed by the British War Office. To their certificate of audit they added this comment: "We trust we may be permitted to express our appreciation of the very efficient and business-like manner in which this really large undertaking was entered upon and carried through to a successful termination by the Dairy Commissioner, the war fund accountant, and their staffs. The Department of Agriculture is to be congratulated in enjoying the services of officials capable, in addition to their many other routine duties, of handling successfully and economically such a large operation during the stress and strain of war."

The Department made other contributions to the war effort as well. The staff was called on to assist in the campaign for encouraging

increased production, while many enlisted in the armed forces. The situation in the Health of Animals Branch was probably typical. In 1917 the Veterinary Director General commented that "Although two pathologists and nineteen other officers of this division (Contagious Diseases) are on active service in Europe, there has been during the past year no cessation of activity in the various lines of activity conducted in this division."

Wartime demand for livestock products extended the work of the Livestock Branch also. The program was augmented in 1915 by a marketing intelligence service. This was designed to supply farmers and others interested in the livestock trade with timely and accurate information on the livestock markets. Another object of the new service was to promote co-operative marketing and selling by grade with payment on a quality basis. To bring about better distribution of the livestock population the Department undertook to pay the travelling expenses of individuals, or representatives of farmers' organizations, who purchased one or more carloads of livestock for breeding purposes. A new policy of assisting agricultural fairs was also introduced.

An "Act Respecting Live Stock," passed in 1917, authorized the Minister to exercise supervision over the management of public stockyards, with reference to fees charged, and the conditions under which livestock could be purchased and sold thereon. Provision was also made for the inspection, before shipment, of eggs offered for export.

Seed Supplies Threatened

Widespread crop failure in 1916 caused a serious threat to the supply of proper seed for the following year's crop. To avert this danger a Seed Purchasing Commission was appointed under the Seed Branch head, with power to purchase, clean, store, and distribute at cost, inspected seed grain where required. Under the provisions of the War Measures Act, the Minister was authorized to investigate the supply, use, and prices of seed, fertilizer, and any other article required in connection with the production, transportation, and marketing of agricultural products. Steps were taken to assure adequate supplies of field root and vegetable seeds. Under the same Act regulations were passed prohibiting the burning of straw in the Prairie Provinces as a means of conserving feed.

The Margarine Problem

Back in 1903, legislation had been passed to prevent the importation, manufacture, and sale of oleomargarine in Canada. In 1914, the Dairy Industry Act was passed to regulate the manufacture and sale of dairy products. Amongst other things it prohibited the manufacture, importation and sale of butter substitutes of any kind, or of renovated or processed butter, and of cheese adulterated with fats other than the fats of milk. But in 1917, notwithstanding the provisions of the Dairy

Industry Act, the Canada Food Board passed an order permitting the use of oleomargarine. The Health of Animals Branch was entrusted with supervising the manufacture of the product and the Dairy Branch with supervising its sale. Later, under the War Measures Act, regulations were passed covering the manufacture and sale of margarine. In 1922 the Oleomargarine Act was amended to permit the importation and manufacture of margarine until August 31, 1923, and its sale until March 1, 1924. No further extensions were made so that manufacture and sale ceased on the dates mentioned.

Tracking Down Feed Contaminants

Toward the end of the war complaints were heard that mill feeds were being adulterated with screenings containing weed seeds harmful to livestock. These complaints were investigated by the Seed Branch. The seeds suspected of being harmful could not be detected by ordinary chemical analysis but required microscopic examination and new work along these lines was started during 1918.

Although no announcement of the new service was made, by the following year a considerable number of farmers' samples were received for analysis. Practically all were from feeds alleged to have been found harmful and unpalatable. These analyses revealed some surprising results. In one lot of samples, one or two representatives of poisonous weed seeds were found in 60 per cent of the feeds, not only in ground form but also as whole seed. A so-called barley meal contained no barley but was made up of other ingredients including pulverized oat hulls.

Improvements in technique were made as this work progressed and in a few years it began to have a salutory effect on the quality of feeds

George F. O'Halloran

Made Deputy Minister in 1902, following the resignation of the former incumbent, W. B. Scarth. He held office until 1918 when he became Commissioner of Patents on the transfer of the Patent Office to the Department of Trade and Commerce.

being offered for sale. Some years after the service was initiated, analyses showed that marked improvement had been made and that most of these feeds were appearing on the market properly labelled and otherwise in conformity with the Feeding Stuffs Act.

Department Serves Agriculture Alone

In 1918 those matters not related to agriculture, but still under the jurisdiction of the Minister, were transferred to other departments. Details of Patents of Invention, Copyrights, Trade Marks, Industrial Design, Timber Marks, Public Health, and Quarantine appeared for the last time in the Department Report for the year ended March, 1918. From that date forward, the Department of Agriculture has concerned itself solely with things agricultural.

PART III The Inter-War Period 1919-1937

The Branch type of organization that had obtained since the early days of the Department was still in effect at the beginning of the inter-war period. Following the conclusion of the war, the Department gradually returned to its peacetime activities. New lines of work were undertaken and a considerable amount of legislation was passed, with emphasis on the grading of agricultural products. Experimental work reached out into new areas and the Department became involved in assistance programs necessitated by bad weather and general economic depression.

Dr. J. H. Grisdale, who had served as Director of the Experimental Farms Branch since 1911, was appointed Deputy Minister in 1919 and was succeeded as Director by Dr. E. S. Archibald. Under Dr. Archibald's direction the efforts of the organization were aimed more particularly at intensive investigation carried through with scientific precision. To carry out this program botanical laboratories were established at branch farms and elsewhere, and new experiment stations and substations were opened. In 1920, the first of these, a station at Swift Current, Sask., was opened to study the problems of dryland farming. The tobacco station at Harrow was expanded into a regular station in 1923 and in the same year the Division of Agricultural Bacteriology was added at the Central Experimental Farm.

Dr. E. S. Archibald

A former Dominion Animal Husbandman, he was appointed Director of the Experimental Farms Branch in 1919. For over 30 years he headed that organization during the period of its development into a modern research establishment.

The Range Experiment Station at Manyberries, Alta., dates from 1926; the station at L'Assomption, Que., from 1928. A substation at Regina was established in 1931 and in the same year the forage plants laboratory at Saskatoon was organized in co-operation with the Univer-

sity of Saskatchewan. The following year work with flue-cured tobacco was begun at Delhi, in the new tobacco belt of southwestern Ontario. Melfort in northeastern Saskatchewan saw a new station opened there in 1935, and at Normandin, Que., a new station to serve the Lake St. John district replaced an earlier one at La Ferme.

Economics Branch Organized

By the late 1920's it was apparent that agriculture was becoming more and more a business and less simply a way of life. In recognition of the need for greater attention to the business side of farming, the Department in 1929 rounded out the organization by the addition of an Agricultural Economics Branch. For a number of years, some work in the economic field had been carried on by other branches. It was felt, however, that much of this work lacked co-ordination and would be more effective if brought together in a new Branch.

Fields of activity in which the new Branch might be expected to engage were listed as the following: farm management; land problems; credit, finance, and taxation; transportation; marketing; agricultural co-operation; statistics; agricultural history; and rural sociology. Initially much of the research was directed at the problems of immediate concern to the farmer. Although this is still part of the program, latterly more attention has been given to the field of policy.

Regulatory Measures

Early in 1920 Deputy Ministers of the provincial departments of agriculture with their officials met in Ottawa to discuss means of developing greater co-ordination of federal and provincial activities. The relation of the work of the Experimental Farms to that of the provincial departments of agriculture received attention and the meeting recommended the formation of an Advisory Board in each province to make recommendations regarding establishment of additional Farms and lines of work to be undertaken. The meeting also agreed that the grading of dairy products for export was a function of the federal government but that grading for home consumption could be looked after by the provinces.

Later in 1920 and in the two years following, a spate of agricultural legislation was passed. Included were amendments to the Animal Contagious Diseases Act, and to the Inspection and Sale Act; a new Act to regulate the inspection and sale of commercial feeds; another Act to regulate the sale of commercial fertilizers; and the Root Vegetables Act to provide for inspection and grading of certain vegetables.

Besides these Acts, important changes in regulations under other Acts made during these years are noteworthy. These provided for: the establishment of accredited tuberculosis-free herds; a performance testing scheme for poultry, involving egg-laying contests; control of the European corn borer; control of imports of wool and hair as well as hides and skins; swine and cattle clubs for boys and girls; marketing of hogs

on a graded basis with premiums paid for select hogs; and grading of eggs for the domestic as well as the export trade.

Grading Regulations Prove their Worth

The hog grading regulations were the outcome of a conference between the Department of Agriculture, the meat packers, and the producers. Aimed at producing the type of hog best suited for the manufacture of Wiltshire sides in an effort to recapture the British market, they resulted in the almost complete conversion of the industry from lard-type to bacon-type hogs.

The value of the egg grading policy soon became apparent. On export markets Canadian eggs began to command a quality premium over those of other countries. Dr. J. H. Grisdale, Deputy Minister, during a visit to Britain in 1922 said: "When it comes to eggs, Canada ranks highest, next to the home article or the Holland article, which, of course, comes over inside twenty-four hours. Thirty-dozen crates, Canada First's, were quoted some shillings higher than American selected eggs, Americans being, of course, our greatest competitors." And if further testimony were needed, it can be found in the fact that since egg grading was adopted a whole generation of Canadians has grown up to whom the term a "bad egg" is merely a figure of speech.

Public Backs Egg Grading

The validity of the egg grading regulations was challenged in the courts a few years later and they were found to be beyond federal jurisdiction. By this time, public opinion was solidly behind the regulations and the difficulty was overcome by the passage of provincial enabling legislation. Similarly, other grading regulations applicable initially to interprovincial and export trade, were extended to cover domestic trade by action of the various provincial governments.

Grade standards for dressed poultry were established in 1928 and a year later Record of Performance for poultry was inaugurated at a time when the average production per bird was around 80 to 90 eggs annually. The same year saw the adoption of grading standards for beef and a policy of Advanced Registry for purebred swine. Carcass grading of hogs on a voluntary basis was begun in 1934 and became the official system six years later when live grading was discontinued.

The various grading policies introduced by the Department have served not only to create price differentials for quality products but have stimulated consumption. The grading of hogs brought about a great expansion of the industry, improved the quality of bacon and pork products, and resulted in a marked increase in domestic and export trade. The selling of eggs on a graded basis was followed by such an upsurge in demand, per capita consumption of eggs in Canada led the world. Sales of fruit and vegetables, dairy products, beef and dressed poultry, along with canned goods all have benefited from the grading process.

Marketing Act Introduced

In common with other segments of the economy, agriculture suffered during the great depression of the 1930's. In an effort to improve the lot of farmers, Parliament passed the Natural Products Marketing Act 1934. This was described as an Act "to improve the methods and practices of marketing natural products in Canada and in export trade and to make further provision therewith." Under this Act a Dominion Marketing Board was established. Amongst the powers of the Board were: "to regulate marketing and distribution of natural products of agriculture, the forests, sea, lake, or river, as may be designated by the Governor in Council; to conduct pools for the equalization of returns received from their sale and compensate any person for loss sustained in withholding such products from the market, or for shipment to any country whose currency is depreciated in relation to Canadian currency; to assist in the construction of marketing facilities by grant or loan."

The Board was short lived. Following a change in Government in 1935, the new administration referred the legislation to the Supreme Court and the Privy Council. Both authorities agreed that the Act was ultra vires of the Dominion Government. All Orders-in-Council relating to the Marketing Board were later revoked and the Board ceased to operate. The Government then decided to assist orderly marketing by the encouragement of pools which would give the producer maximum sales return for his product; less a margin for handling expenses agreed upon in advance.

Fruit, Vegetables, and Honey

The Fruit, Vegetables and Honey Act of July 1935 replaced an earlier Fruit and Honey Act and brought up to date the legislation governing the marketing of these commodities. Amongst other provisions the new Act amended the regulations of a year earlier concerning the licensing of certain dealers and brokers. The purpose as outlined in the preamble of the Bill was "to control the sale of fruit and vegetables moving in interprovincial or export trade, to safeguard to the producer the moneys realized from the sale of his produce and to prevent unfair practices in the handling and sale of such products." Administration of these regulations became the responsibility of the Fruit Branch.

Problems with Wheat

From the early days of grain growing on the Prairies there was continuing demand for varieties of wheat that would mature earlier in the short growing season and thus avoid the hazard of frost damage. In 1925, the Experimental Farms placed on the market several thousand bushels of a new variety called Garnet. Its performance up to that time suggested that it would be a valuable contribution to Canadian agriculture. And so indeed it proved to be. It ripened five to ten days earlier

Board. The Farm Credit Act, passed in July, 1959, and proclaimed in October, provided for the establishment of a new body, the Farm Credit Corporation. This Corporation was to be responsible to the Minister of Agriculture, whereas the Farm Loan Board had reported through the Minister of Finance.

The new Act increased from $15,000 to $20,000 the amount of loan available on first mortgages for purchase, and raised the basis from 65 to 75 per cent of the appraised value. A new type of assistance, the supervised loan, was made available to applicants between the ages of 21 and 45, to enable them to set up an economic unit. Loans of this type could be made up to 75 per cent of the appraised value of the land and buildings, but not to exceed $27,500. Successful applicants for these supervised loans were required to have at least five years experience in farming.

In commenting on the Act, the Minister said that it made it possible for younger, more energetic farmers to take up farming as a permanent occupation and to establish themselves more quickly. It would encourage the best personnel, those who could continue increased production per man-year, to remain on the farm. Farmers have had to supplement their capital with credit more and more during recent years with the advance of mechanization and the larger investment required for livestock on commercial farms. The new Act would make this credit more readily available.

Crop Insurance

The Crop Insurance Act, another measure designed to take some of the risks out of farming, was passed in 1959. Of itself, the Act provides no specific insurance scheme but it permits the Federal Government to assist the provinces to do so by making direct contributions toward the cost of setting up crop insurance. Schemes may be organized on the basis of specific crops or areas within the province. Agreements between the provinces and the Federal Government set out the terms of the insurance coverage.

Initially, contributions from the federal treasury were limited to 50 per cent of the administrative costs incurred by the province and 20 per cent of the amount of premiums paid during the year. The federal authority was also permitted to make loans to any province up to 75 per cent of the amount by which payments required under policies of insurance exceeded the aggregate of: premium receipts for the year, the reserve payment of indemnities, and $200,000. Under the terms of the Act, those who take advantage of it are denied the right to collect under the Prairie Farm Assistance Act.

ARDA

A piece of legislation with far-reaching implications was passed by Parliament in 1961. This was the Agricultural Rehabilitation and Development Act, popularly known as ARDA. The Act was designed

was placed against landing Canadian cattle in the British Isles except for immediate slaughter. Subsequent post-mortem examination discredited the diagnosis and it was pointed out that Canada's livestock were amongst the healthiest in the world. Efforts to have the embargo removed were unavailing, however, despite repeated representations over the years. Finally in 1923 the embargo was lifted and Canadian cattle were again admitted to Britain, provided that the ship in which they travelled went directly from a Canadian port to a British port; that the cattle were subject to a three-day quarantine immediately prior to embarkation, and that they were accompanied by an official veterinarian who would be required to report on the health of the animals in the shipment.

On the domestic scene, the Restricted Area Plan for tuberculosis control in cattle was introduced at this time. New regulations under the Animal Contagious Diseases Act provided that on the request of a provincial government and with the consent of at least two-thirds of the cattle owners resident therein, all the cattle within an area would be tested, reactors destroyed, and the movement of other untested cattle into the area prohibited.

Biological Control of Insects

References to the control of insects by natural means may be found in reports of the Entomology Branch almost from its inception. The importation of parasites and predators as a control measure gained considerable impetus when the European corn borer became of economic importance. In 1935 work was begun on the construction of special facilities at Belleville, Ont., to handle the work of rearing and distributing parasites. In June of the following year the new building was officially opened and at the same time a conference on biological methods of controlling insects was attended by eminent authorities from abroad as well as members of the Department staff. From that time forward, the Belleville laboratory has been the center for biological control research in Canada.

Prairie Farm Rehabilitation

Associated with the world-wide depression was a prolonged period of drought in Western Canada which resulted in seriously reduced yields and complete crop failures in many sections. Dried-out soil bare of vegetation drifted badly in the wind, destroying fields and farmsteads alike. So widespread was the trouble and so critical the economic situation of the municipalities and the prairie provincial governments that national action was called for. This came in the form of the Prairie Farm Rehabilitation Act, passed in 1935, "to provide for the improvement of agricultural conditions in those parts of the Prairie Provinces which in recent years have suffered from drought and soil drifting."

Essentially the Act was designed to give encouragement to farmers to solve their own problems. Principal object of the rehabilitation pro-

gram carried out under the Act was to develop and introduce measures to control these conditions and to establish agriculture in the affected areas on a sound economic basis. Under the direction of the Minister of Agriculture a three-pronged attack was mounted: through improved cultural practices, conservation of water supplies, and necessary adjustments in land utilization. Co-operating with the Department of Agriculture were certain other federal agencies as well as the governments of the three Prairie Provinces. Much of the work in the early stages of the program was done by the Experimental Farms on the Prairies but later it came under the control of a separate administration.

As a means of avoiding some of the mistakes of the past, steps were taken to make a thorough survey of the soils throughout the dry areas. Federal funds were used to assist the provincial governments with this work, and a new Soil Research Laboratory was established at the Experimental Station, Swift Current, Sask., to carry on basic research into the problems of soil moisture, soil drifting, and soil fertility. This was the beginning of federal participation in soil survey work. It has since been extended to cover the whole country with continuing co-operation between provincial and federal authorities.

A Golden Jubilee

In 1936 the Experimental Farms celebrated the 50th anniversary of their establishment. The occasion was marked by the opening of a new administration building named in honor of the first Director, William Saunders. A special publication titled "Fifty Years of Progress on Dominion Experimental Farms" recounted the circumstances of the founding of the organization and detailed the highlights of its history and accomplishments.

A few examples will serve to indicate the diversity and importance of the work accomplished:

Experiments to cross the buffalo with domestic cattle in order to develop a hardy breed for northern areas.

Studies in animal nutrition leading to the establishment of standards of digestibility for Canadian feeding stuffs.

Development of a satisfactory sanitary technique for milking machines and of simple tests for milk quality.

Breeding of disease-resistant varieties of grains, potatoes, and other crops.

Improvement in yield and quality of cereal varieties.

Development of hardier and better yielding hay and pasture plants.

New and improved varieties of small fruits, vegetables, and ornamental plants.

New apples of McIntosh quality that extended the season of that variety.

Hardy apples for the Prairies.

Feeds Act

In October of 1962 the new Feeds Act came into force and the Feeding Stuffs Act was revoked. Following the pattern of other recent legislation on commodities, the Act itself merely sets out general provisions. Regulations under the Act implement these provisions which take into account technological advances in the feed industry, nutrition, and feeding practices.

Dairy Commission Act

A piece of legislation of great concern to Canadian dairy farmers was enacted by Parliament in July, 1966. This was the Dairy Commission Act, designed "to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labor and investment, and to provide consumers of dairy products with a continuous and adequate supply of dairy products of high quality."

The Act provides for the setting up of a three-man Commission that will have broad powers to purchase, process, ship, store, or otherwise dispose of any dairy product; to make payments for the benefit of producers of milk and cream for the purpose of stabilizing prices; to investigate production, processing, or marketing of any dairy product; and to promote the use of dairy products and the improvement in quality and variety thereof.

Establishment of such a Commission has long been the aim of the dairy farmers who have felt the need for a regulatory body to exercise jurisdiction over the industry. In addition to the Commission itself, there will be a Consultative Committee of nine members to advise on matters relating to the production and marketing of dairy products.

WORK WITH WHEAT

In the early 1950's a new threat to Western wheat growing made its appearance in the form of a rust, virulent to standard rust-resistant varieties of wheat, known as race 15B. But plant breeders at the Rust Research Laboratory had already anticipated this development and were ready with a new wheat resistant to the 15B rust. In order to achieve rapid multiplication of the limited amount of available seed, arrangements were made to produce a winter crop in California and Arizona so that three successive crops were grown in two years. Subsequently named Selkirk, the new variety was made available in six-bushel lots for sowing in 1953. So keen was the demand that in the following year the Department's supply of seed was offered to the public in lots of not more than 12 bushels.

An interesting test has made it possible to assess the monetary worth of a new variety such as Selkirk. In 1964, ten years after its introduction, the Research Station at Winnipeg grew Selkirk in a comparative test with the partially resistant variety Thatcher and the rust-susceptible Marquis. Based on operating costs of $20 per acre, Marquis

gave a net loss of $15.67 per acre from a yield of 2.6 bushels. Thatcher returned $9.34 from a yield of 17.3 bushels. Selkirk with a yield of 20.6 bushels returned $15.97 per acre. The acreage of Selkirk in the rust-susceptible area of Manitoba and eastern Saskatchewan over the decade was almost 60 million acres. With rust abundant in six of the ten years, the advantage of Selkirk over Thatcher on comparable acreages would have been in the order of $386 million; had the choice lain between Marquis and Selkirk, the latter would have been worth $1.8 billion more.

The wheat stem sawfly causes serious losses to wheat growers in certain parts of Alberta and Saskatchewan and a number of varieties resistant to this pest have been developed by the Department. The first of these, named Rescue, was introduced in 1945. Although resistant to the sawfly, it was deficient in other respects and efforts to improve on it have continued.

A superior new variety named Cypress was introduced in 1963. It is better than Rescue in milling and baking qualities and more resistant to the sawfly than Chinook, a variety produced some years earlier.

THE FIGHT AGAINST ANIMAL DISEASES

Amongst the many services offered by the Department of Agriculture, none has a longer nor more distinguished history than the work done under the Animal Contagious Diseases Act. It will be recalled that one of the first pieces of legislation administered by the Department was an Act Respecting Contagious Diseases of Animals, passed by Parliament in 1869. Ever since that date continuous efforts have been exerted toward ridding the country of livestock diseases, and a vigilant watch has been maintained to prevent the introduction of others from abroad. To the Health of Animals Branch belongs the distinction of having been the first strictly agricultural branch to be organized within the Department.

Foot-and-Mouth Disease Strikes

During the month of February, 1952, an outbreak of foot-and-mouth disease was discovered in Saskatchewan. No time was lost in dealing with the emergency and the invasion was crushed by the prompt application of vigorous measures. Parliament passed an "Act for the Control and Extirpation of Foot-and-Mouth Disease" under which compensation regulations were established and a Board of Valuators was set up. The slaughter and burial of all infected and contact animals was carried out under the supervision of the Health of Animals Division, together with strict enforcement of quarantine measures. So effective were these measures that on August 19, 1952, Canada was declared to be free from foot-and-mouth disease, the outbreak having been completely eradicated.

Stamping out the disease required the slaughter of 1,343 cattle, 294 swine, and 97 sheep. Some 42 premises were involved, 29 of them

Health of Animals, including all elements of the former Branch of that name except the work of animal disease research;

Livestock and Poultry, embracing the production aspects of the former Livestock Branch;

Plant Products, formerly the Seed Branch;

Plant Protection, including plant inspection work and the work of the Foreign Pests Suppression Division of the Entomological Branch.

The Experimental Farms Service included ten of its former thirteen Divisions: Animal Husbandry, Bee, Cereal, Fibre, Forage Plants, Field Husbandry, Horticulture, Illustration Stations, Poultry, and Tobacco.

Components of the Science Service were the following Divisions:

Animal Pathology, formerly under the Health of Animals Branch;

Botany and Plant Pathology, the former Botany Division of the Experimental Farms Branch;

Bacteriology and Dairy Research, made up of the former Bacteriology Division of the Experimental Farms Branch plus the research laboratory of the former Dairy Branch;

Chemistry, a former Division of the Experimental Farms Branch;

Entomology, the former Entomological Branch less the Foreign Pests Suppression Division.

The Administration Service, under the direct supervision of the Deputy Minister's Office, comprised the Departmental Administrative units together with the Publicity and Extension Branch, now named Division.

Dr. H. Barton

Deputy Minister of the Department from 1932 to 1949.

Changes are always unsettling and this reorganization was no exception. There was a good deal of apprehension amongst staff members when historic associations were shattered. Outside the Department there was sharp criticism of some aspects of the reorganization both from the press and the public. One prominent agricultural journalist of the day, writing under the heading: "Trouble Ahead, Federal Agricultural Branch Changes Held Grave Mistake," went on to say, "Looking over the whole field of the Dominion's department of agriculture, it is extremely difficult to visualize what great improvement the Hon. J. G. Gardiner hopes to derive from it, and he can rest assured that he has prepared for himself a great deal of dissatisfaction, discontent and lack of co-operation at a time when hearty co-operation in connection with all things looking to the rehabilitation of agriculture throughout Canada is so desperately needed."

But, in the end, matters settled down and the Department continued to bend its efforts toward the advancement of Canadian agriculture. The titles might be different but the objectives remained the same.

In 1942 a further change was made when the Plant Protection Division was separated from Production Service and added to Science Service. Still later, a Forest Biology Division, combining the work with forest insects and diseases, was established in Science Service.

The PFRA Story

Prior to the Departmental reorganization one of the paramount problems facing the Department had been the rehabilitation of the drought-stricken area of Western Canada. This work was carried on under the Prairie Farm Rehabilitation Act mentioned previously. Since the early days of grain growing on the Prairies, summerfallowing had been an accepted practice for moisture conservation, but it exposed the soil to wind erosion. A primary requirement was a moisture-conserving method that would keep the soil tied to the farm. Experiments showed that the practice of strip farming with alternate strips of crop and fallow running at right angles to the prevailing winds was highly effective. The so-called "trash culture" method was also found to give good results in combination with a rough, cloddy tilth. Where land was too light to respond to these treatments, return to permanent grass was recommended. One development of the cultural program was the introduction of crested wheat grass to Western Canada, where it demonstrated its ability to become established and produce good stands of forage under very adverse conditions.

Other aspects of the cultural program included the planting of trees and shrubs in shelterbelts to protect farmsteads and buildings from the high winds of the open prairie. Two Forest Nursery Stations, formerly operated by another Department, were taken over by the Experimental Farms Branch and used for the production and distribution of shelterbelt material and for research into the effectiveness of shelterbelts. Field shelterbelts as a means of controlling soil drifting were also tried.

developed, the breed is based on a combination of Danish Landrace, Berkshire, and Chester White. The method of chance draw was chosen as the fairest way for distributing the limited number of boars available.

Cattalo Breeding Project

In 1964 the cattalo breeding project, started by the Experimental Farms Branch back in 1916, was discontinued. Designed to combine the hardiness of the buffalo with the quality of domestic beef cattle, the project aroused much public interest during its early years. Although successful in demonstrating the feasibility of crosses between animal species, a lessened emphasis on the original objectives prompted the termination of the work.

Assistance to Horse Breeding Discontinued

The horse, for many years the principal source of farm power, has now been almost completely replaced by mechanical power. For more than half a century the Department had given assistance to the horse breeding industry but this came to an end on April 1, 1965, with the discontinuance of all premium policies for horse breeding.

Keeping Tab on the Horses

An activity of the Department that never fails to arouse curiosity is the supervision of betting at race tracks. By an amendment to the Criminal Code in 1920, betting at race tracks was restricted to the pari-mutuel system and the supervision of such betting was assigned to an officer appointed by the Minister of Agriculture. By the time the amending Act was passed, the racing season for that year was almost over so no steps were taken until the following year to put the amended section into effect. It is of interest to know that "Notwithstanding the fact that all the men employed were new to the work, they performed their duties most efficiently and satisfactorily, and in most cases received the active co-operation of the racing associations."

The Department is also responsible for the drafting and issuance of regulations under which the pari-mutuel is operated, and for rules governing photo finish camera, film patrol, and saliva and urine services. All these activities are carried out with the co-operation of the R.C.M.P.

This is one of the few services of the Department that costs the taxpayer nothing — a statutory levy is made on all money wagered to cover the costs of the supervision.

Electronic Computer Used

In October, 1963, the Livestock Division began processing milk production records by electronic computer and thereby greatly increased the accuracy and speeded the scheduling of certification. By 1966 records for all breeds of dairy cattle were being handled by computer.

New Procedures for Assessing Performance

Commencing the first of January, 1965, new procedures were adopted for assessing the performance of purebred swine. These predict the percentage of saleable trimmed cuts and give a more accurate estimate of the economic worth of each carcass than did the former method that involved specific measurements.

Travelling Exhibit

During the summer of 1965 the Department undertook an imaginative new approach to the selling of Canadian cattle abroad. A travelling exhibit of 20 Canadian Holsteins was flown to France where the cattle were taken on a two-month tour that included five major agricultural shows, and were seen by an estimated half million French farmers. The animals were selected by the Holstein Friesian Association and were purchased by the Department. Following this initial experiment, further exhibits were arranged by the Department of Trade and Commerce. Buyers have shown considerable interest in Canadian cattle, particularly in Eastern Europe.

In the fall of 1965 a reverse movement took place when for the first time cattle were permitted to move to Canada directly from Europe. The 113 animals of the Charolais breed had to meet stringent Canadian requirements as well as undergo a 30-day quarantine before leaving France. Under permit from the Health of Animals Branch, they were landed at the maximum security quarantine station at Grosse Ile, Que., for a stay of at least three months. In 1966 a further 90-day quarantine on the premises of the new owners was an additional precaution against the introduction of disease.

DISSEMINATION OF INFORMATION

One aspect of the Department's activities that has probably brought it to the attention of more Canadians than any other is the information program. Even in the early days of the Department, officials were alive to the necessity of passing on to farmers any new information that became available. The report for the year 1902 has this to say: "Carefully prepared, practical articles on live stock and kindred subjects have been sent weekly to over 800 newspapers throughout Canada, a large proportion of which have published them regularly. It is believed that more can be done by sending good articles to the small country papers than in almost any other way for by this means information is placed before many country people who cannot otherwise be reached."

Just as it was important for the Department to build up a sound body of agricultural information for the guidance of farmers in this developing country, so it was essential that the information be made available as quickly as possible to those who could use it. When the Department was young there were none of the present-day mass communications media; the printed word stood alone. So it was that besides

Shelterbelt associations were organized among farmers in a number of areas where the members undertook to plant shelterbelts around their fields covering an area of about one township. Beneficial results were secured both in the control of drifting soil and in the conservation of moisture resulting from snow trapped behind the hedges. The reclamation of abandoned marginal land was successfully demonstrated at several points in Manitoba and Saskatchewan.

Saving the Precious Water

The second part of the program, water development, embraced a wide variety of plans for the conservation and wise utilization of available water supplies. These ranged all the way from dugouts on individual farms to conserve runoff for domestic use, to large storage dams to hold back the discharge of whole watersheds and make it available for irrigation and for the use of municipalities.

With the so-called small water development projects, such as dugouts, dams on small streams, and irrigation projects, farmers were given financial assistance in proportion to the amount of work done. Free engineering service was also provided. Where two or more farmers co-operated on a project, the maximum amount of assistance was increased. These small-scale irrigation projects were used chiefly for the production of forage crops so that reserves could be maintained to protect farmers against forced liquidation of their livestock during drought periods.

The large water development projects such as community storage dams and major storage reservoirs resulted in thousands of additional acres being brought under irrigation, and furnished domestic water supplies for many prairie municipalities. Such projects were undertaken on a cost and work sharing basis by agreement between the federal government and the province concerned. One of the first of these was the St. Mary Irrigation Project in southern Alberta using water from the St. Mary, Waterton, Belly, and Milk Rivers. The combined storage capacity of the reservoirs on this project is 490,000 acre-feet. The Bow River Irrigation Project, taken over from a private company in 1951, was renovated and extended to provide an irrigation potential of 240,000 acres west of Medicine Hat, Alberta. The South Saskatchewan River Project is a large-scale, multi-purpose water conservation scheme using the water of the South Saskatchewan River to create a reservoir extending 140 miles upstream from the dam near Outlook, Saskatchewan. It will provide for irrigation, municipal water supply, recreation facilities, and power development.

The third phase of the program involved a study of land utilization. During the early days of settlement in the West, much marginal and submarginal land was broken up for crop production. This trend was accelerated under the pressure of wartime demands. Some of this land was later abandoned but substantial areas continued under cultivation with little hope of successful crop production. Under the PFRA pro-

gram, much of this land has been taken out of crop production and restored to permanent grass. Amendments to the original Act made possible resettlement of farmers living on these marginal lands. The land was then converted into Community Pastures. These pastures are now an important asset to prairie agriculture, permitting, as they do, a degree of diversification in the farm operations that was not feasible formerly. Pasture privileges are given first to farmers who have been moved out of the pasture area and relocated within the municipality where the pasture is situated. Many services, such as dehorning, castration, innoculation, spraying, and branding, together with a breeding service, are available to pasture patrons.

Since the inception of the PFRA program, the total outlay to March 31, 1965, was in excess of $300 million, but the value to the agriculture of Western Canada is beyond measurement.

More New Legislation

In 1939, several important pieces of legislation were passed. The Wheat Co-operative Marketing Act had a short life since most of the problems associated with the marketing of wheat were soon turned over to the Department of Trade and Commerce, under The Canadian Wheat Board Act.

The Agricultural Products Co-operative Marketing Act covered the marketing of all agricultural products except wheat. Its purpose was to assist farmers to pool returns from the sale of their products by guaranteeing initial payments and thus assisting in the orderly marketing of the product. Sales returns are made to producers on a co-operative plan. This Act has been widely used by producers.

The Prairie Farm Assistance Act was designed to assist farmers who might suffer low yields through circumstances beyond their control. When the average yields in designated areas fall below certain levels, direct money payments are made to the farmers within the area. A levy of one per cent is made on all grain marketed in Western Canada and this provides the nucleus of the fund from which the payments are made. Any deficit is made up from the public treasury.

A fourth measure was the Cheese and Cheese Factory Improvement Act. Its purpose was to "promote the welfare of the cheese industry through encouraging amalgamations of existing factories in order to secure improvement and greater uniformity of the product through increased production per factory; to assist in providing improved cheese maturing facilities in cheese factories which will result in improved quality and reduced loss of weight during maturing; and to assist in the standardization of the diameter of cheese-pressing equipment, thereby securing improved appearance of the cheese." Government assistance was provided to the extent of 50 per cent of the expenditures for these purposes, plus a premium payment on high-quality cheese.

The Livestock and Livestock Products Act, 1939, brought up to date and consolidated in a more efficient form the provisions of an

British Columbia. Seasonable Hints enjoyed a very wide distribution, at one time reaching over three-quarters of a million copies per issue. In 1932 Seasonable Hints was discontinued.

In 1956 a new quarterly periodical was started under the title "Research for Farmers." Aimed primarily at workers in agricultural extension, it carried articles reporting developments in the Department's research program. This publication has since been renamed "Canada Agriculture."

Other Media

The Publications Branch, originally responsible only for distributing the publications of the Department, gradually took on other tasks. Editing of manuscripts, original writing, release of information to the press, preparation of exhibits at fairs and exhibitions, all became responsibilities of the Branch and its successors under various names. With the advent of motion pictures, radio, and television, these modern methods of mass communication were all employed in turn in the dissemination of information by the present Information Division.

DEPARTMENTAL LIBRARY

A necessary adjunct to any research establishment is a good working library abundantly stocked with reference material and up-to-date periodical literature covering the fields of interest. The Departmental library fills both these requirements. From its modest beginning it grew steadily under the direction of Miss A. L. Shaw, the first trained librarian to take charge of the library and its guiding spirit for 35 years. Just

Miss A. L. Shaw

The first trained librarian to serve the Department of Agriculture. She was largely responsible for building up the Library which she headed for 35 years.

how modest was its beginning is revealed by a comment from the Departmental report of 1912 which says: "The publications in the library have now reached the number of 1,200 bound volumes and over 3,000 pamphlets." Today, with more than 300,000 volumes in the central library at Ottawa, it is the main national collection in the life sciences, the most comprehensive assembly of bio-agricultural and related literature in Canada, and one of the great agricultural libraries of the world.

In 1950, the first regional libraries were established with qualified librarians in charge and under the direction of the Chief Librarian in Ottawa. Additional branch libraries have been added from time to time at key locations; 20 were in operation at the beginning of 1967.

There is one important aspect of the Departmental organization that should not be overlooked. Although the headquarters is in Ottawa, much the larger proportion of the departmental staff operates away from the Capital. Numerous references have been made to the farflung chain of experimental and research establishments. Mention, too, has been made of various regional laboratories and district offices but the fact is that all the regulatory services of grading and inspection, promotional, and other field work operate from centers throughout the country where their particular services are required. The people who actually administer the great bulk of the Departmental legislation are in these centers. They are in daily contact with farmers and the trade, and the reputation of the Department with the general public largely rests with them.

During the past 100 years the Department has seen many changes at the political level. Nineteen different Ministers have presided over the Department for varying periods of time and five others have served briefly in an acting capacity. The administrative head has changed less frequently; nine Deputy Ministers have spanned a century of service. The names of the Ministers and Deputy Ministers together with their periods of service are shown in Appendix I.

Many other men and women have left their mark on the Department both at headquarters and in the field. It is not possible to mention them all here, and to single out any would inevitably mean the omission of others equally deserving of mention.

Throughout its long history, the Department of Agriculture has frequently altered its structure and policies in tune with the needs of the times. It has guided an infant agriculture through a pioneer period, helped it to become the leading industry of the country, and rendered assistance in times of disaster. Some of the many Departmental contributions have been mentioned in these pages but much more might be told.

The present Department bears little resemblance to the original. Agriculture, too, has changed vastly from those far-off pioneer days.

culture and those from other occupations." Under this Act, a Prices Support Board was set up with power to buy and sell any farm product except wheat, and thus establish a level below which no one need sell.

The Board was also authorized to pay subsidies in order to maintain domestic and export prices at similar levels. As an alternative to the purchase plan, the Board was empowered to make deficiency or equalization payments, equal to the difference between the established price and the average price at which a product sold in the market during a stated period, provided such prices were less than the established price. As with the various other wartime boards, the Prices Support Board members were all officials of the Department. Initially a revolving fund of $200 million was provided for the Board's activities.

Maple Products Industry Regulated

The Maple Products Industry Act was placed on the Statute Books in 1945. It provided for the licensing of farmers, manufacturers, and packers shipping maple products interprovincially or in export trade and established grades for the products. This Act replaced an earlier one passed in 1930 under the title Maple Sugar Industry Act.

Developments in the Far North

Although most of the experimental work done by the Department has been carried on in the recognized agricultural areas of the country, the possibilities of the far north have not been entirely neglected. Most northerly of the early experimental stations was the one at Fort Vermilion, Alta., opened in 1908. Some years later arrangements were made with the Oblate missions in the Mackenzie and Yukon districts to conduct simple variety tests and these helped to establish the possibilities of the area, at least for a subsistence agriculture.

In 1944 a station was opened in the Yukon at Mile 1019 on the Alaska Highway and after land had been cleared and prepared, a regular program of experimental work was begun. Two years later a station was opened at Fort Simpson, N.W.T. Impressive results from the work of these stations have indicated that agriculture is feasible in favored areas of the North. Soil surveys have disclosed the presence of substantial acreages of potential agricultural soil that may well be farmed in the future.

At Fort Chimo in the Ungava district of northern Quebec, agricultural work has been aimed chiefly at providing supplementary food supplies for the native population.

PART V Years of Progress 1945-1966

STRUCTURAL CHANGES

The 20-year period after the Second World War saw tremendous changes in the Department of Agriculture. Activities associated with the prosecution of the war were gradually wound up. The Agricultural Supplies Board did not operate beyond 1947 but a number of its programs were continued under regular Departmental policies, for example, the freight assistance on Western feed grains. The Meat Board, Dairy Products Board, and Special Products Board, established originally under wartime legislation, were re-established under the Agricultural Products Act. By 1951 these three Boards had also disappeared.

Within the Department proper, completely new fields of activity were opened up. A notable development was the launching of an extensive program of new laboratory construction by the Science Service, both in Ottawa and in the field. The program was begun in 1950, and new facilities were provided annually for a number of years thereafter. Organizational changes in the Science Service involved the transfer to Production Service of the Animal Pathology Division in 1952 and the Plant Protection Division in 1956. In the Marketing Service, in 1955, the Poultry Section of the Livestock and Livestock Products Division was separated from that Division and established as a Poultry Products Division.

Dr. J. C. Taggart

Deputy Minister of the Department during the years 1949 to 1959. Earlier he had served as Experimental Farm Superintendent, Chairman of the wartime Meat Board, Chairman of the Agricultural Prices Support Board and Director General of Services.

The greatest change, however, came in April, 1959, when the structure of the Department underwent the first major reorganization in over 20 years, and new concepts were brought to bear on the solution

Eleventh Ministry (Unionist "National Liberal and Conservative Party") ..... July 10, 1920 - Dec. 29, 1921
Prime Minister, the Rt. Hon. Arthur Meighen
Hon. Simon Fraser Tolmie ..... July 10, 1920 - Dec. 29, 1921

Twelfth Ministry (Liberal) ..... Dec. 29, 1921 - June 28, 1926
Prime Minister, the Rt. Hon. William Lyon Mackenzie King
Hon. William Richard Motherwell ..... Dec. 29, 1921 - June 28, 1926

Thirteenth Ministry (Conservative) ..... June 29, 1926 - Sept. 25, 1926
Prime Minister, the Rt. Hon. Arthur Meighen
Hon. Henry Herbert Stevens (Acting Minister) ... June 29, 1926 - July 12, 1926
Hon. Simon Fraser Tolmie ..... July 13, 1926 - Sept. 25, 1926

Fourteenth Ministry (Liberal) ..... Sept. 25, 1926 - Aug. 6, 1930
Prime Minister, the Rt. Hon. William Lyon Mackenzie King
Hon. William Richard Motherwell ..... Sept. 25, 1926 - Aug. 6, 1930

Fifteenth Ministry (Conservative) ..... Aug. 7, 1930 - Oct. 23, 1935
Prime Minister, the Rt. Hon. Richard Bedford Bennett
Hon. Robert Weir ..... Aug. 7, 1930 - Oct. 23, 1935

Sixteenth Ministry (Liberal) ..... Oct. 23, 1935 - Nov. 15, 1948
Prime Minister, the Rt. Hon. Wiliam Lyon Mackenzie King
Hon. Thomas Alexander Crerar (Acting Minister) ..... Oct. 23, 1935 - Oct. 27, 1935
Rt. Hon. James Garfield Gardiner ..... Oct. 28, 1935 - Nov. 15, 1948

Seventeenth Ministry (Liberal) ..... Nov. 15, 1948 - June 21, 1957
Prime Minister, the Rt. Hon. Louis Stephen St. Laurent
Rt. Hon. James Garfield Gardiner ..... Nov. 15, 1948 - June 21, 1957

Eighteenth Ministry (Conservative) ..... June 21, 1957 - Apr. 22, 1963
Prime Minister, the Rt. Hon. John George Diefenbaker
Hon. Douglas Scott Harkness (Acting Minister) .. June 21, 1957 - Aug. 7, 1957
Hon. Douglas Scott Harkness ..... Aug. 7, 1957 - Oct. 11, 1960
Hon. Francis Alvin George Hamilton ..... Oct. 11, 1960 - Apr. 22, 1963

Nineteenth Ministry (Liberal) ..... Apr. 22, 1963 -
Prime Minister, Rt. Hon. Lester Bowles Pearson
Hon. Harry William Hays ..... Apr. 22, 1963 - Dec. 17, 1965
Hon. J. J. Greene ..... Dec. 18, 1965 -

DEPUTY MINISTERS OF THE DEPARTMENT

Dr. J. C. Taché 1867-1888
John Low 1888-1895
W. B. Scarth 1895-1902
G. F. O'Halloran 1902-1918
J. H. Grisdale 1918-1932
H. Barton 1932-1949
J. G. Taggart 1949-1959
S. C. Barry 1960-1966
S. B. Williams 1967-

were made for liaison between the two departments in entomology, mycology, and biological control.

A new development in 1962 was the establishment within the Research Branch of a Food Research Institute. This was formed by combining the elements of three other Institutes all having to do with some aspect of food technology. Function of the new Institute was to study the characteristics of plant and animal products that affect food quality and consumer acceptance; to determine physical, chemical and biological changes in foods during storage and processing; and to develop new principles in food processing and new types of processed agricultural products. In association with the new Institute, a Food Research Information Office was established to make available the results.

Further changes in the structure of the Department were made late in 1962. The former Production and Marketing Branch was split into two, the Production and Marketing Branch and the Health of Animals Branch. The latter Branch comprised three Divisions: Contagious Diseases, Meat Inspection, and Animal Pathology.

The administration of the Research Branch was again reorganized in April, 1964. Involved was the appointment of Assistant Directors General whose designated areas of responsibility were: research establishments in Ontario, Quebec, and the Atlantic Provinces; establishments in the Western Provinces and the North; advisory, liaison, and service activities; and Research Institutes.

Effective July 31, 1964, the Economics Division was raised to the status of a Branch, bringing to five the number of Branches within the Departmental organization. The new Branch has a Farm Economic Services Division and a Marketing and Trade Services Division.

For many years the regulation of the Canadian grain trade had been a matter for the Department of Trade and Commerce. The Board of Grain Commissioners, the body that controls and supervises the handling of grain under the authority of the Canada Grain Act, had been an adjunct to the Trade Department but in November, 1960, it was brought under the authority of the Minister of Agriculture. Similarly, the Canadian Wheat Board, the selling agency for western grain, had since its inception reported to Parliament through the Minister of Trade and Commerce but it, too, was transferred to Agriculture. Thus, for the first time, all aspects of the grain business from production to ultimate disposal became the responsibility of a single department of government — Agriculture. At present the Wheat Board reports through the Minister of Finance.

ASSISTANCE PROGRAMS

Maritime Marshland Rehabilitation

In 1948 the Maritime Marshland Rehabilitation Act was passed permitting the Department of Agriculture to undertake certain works in connection with the dykelands along the tidal rivers of the Maritime Provinces. These fertile lands, reclaimed from the sea originally by the

Acadian settlers, had for many years been an important asset to Maritime agriculture. Difficulties of maintaining them had resulted in many of the dykes falling into disrepair and the land being flooded by salt water. Under the Act, the Department was authorized to undertake the construction of main protective works and to do all the engineering required, on condition that the provinces assume responsibility for the proper use of the land protected, and for the necessary drainage works. The Act provided for the development of new areas as well as for the reconstruction and repair of existing works.

The original dykes, constructed by hand labor, had in most cases to be replaced by modern broad-based dykes constructed by the use of powerful machines. At some locations dams thrown across stream mouths replaced many miles of dyke and afforded better protection. Some of these dams also served as highway crossings, replacing obsolete bridges.

In February, 1964, responsibility for the Maritime Marshland Rehabilitation program was transferred to the Minister of Forestry. Up to that time more than 80,000 acres had been protected at a cost of about $20.7 million.

Agricultural Stabilization Act

On March 3, 1958, the Agricultural Stabilization Act, passed by Parliament some weeks earlier, was proclaimed. The new Act replaced the Agricultural Prices Support Act, but continued in effect all the programs current under that Act until the end of the fiscal year. The first change in support prices under the new Act became operative on April 1, 1958.

The purpose of the Agricultural Stabilization Act was to establish a system of flexible guaranteed prices for agricultural commodities, based on a ten-year moving average formula. An ultimate security clause in the Act ensures that for nine key commodities, no matter how drastic the decline in prices, farmers are guaranteed a minimum of 80 per cent of the base price, that is the average price over the previous ten years. The nine key commodities named were cattle, hogs, sheep, butter, cheese, eggs; and wheat, oats, and barley in areas outside the jurisdiction of the Canadian Wheat Board.

In addition to the mandatory floor price of 80 per cent, the Act provides that the Board may, with the approval of the Governor in Council, establish support prices at levels above the 80 per cent figure. For the nine key commodities the mandatory floor price, or prices above that level, will be in effect at all times. These prices and those for other commodities under support, are normally established during the first three months of the year and remain in effect for the 12 months following.

Farm Credit Extended

For a long time the Government had been in the business of making capital loans to farmers through the agency of the Canadian Farm Loan

Board. The Farm Credit Act, passed in July, 1959, and proclaimed in October, provided for the establishment of a new body, the Farm Credit Corporation. This Corporation was to be responsible to the Minister of Agriculture, whereas the Farm Loan Board had reported through the Minister of Finance.

The new Act increased from $15,000 to $20,000 the amount of loan available on first mortgages for purchase, and raised the basis from 65 to 75 per cent of the appraised value. A new type of assistance, the supervised loan, was made available to applicants between the ages of 21 and 45, to enable them to set up an economic unit. Loans of this type could be made up to 75 per cent of the appraised value of the land and buildings, but not to exceed $27,500. Successful applicants for these supervised loans were required to have at least five years experience in farming.

In commenting on the Act, the Minister said that it made it possible for younger, more energetic farmers to take up farming as a permanent occupation and to establish themselves more quickly. It would encourage the best personnel, those who could continue increased production per man-year, to remain on the farm. Farmers have had to supplement their capital with credit more and more during recent years with the advance of mechanization and the larger investment required for livestock on commercial farms. The new Act would make this credit more readily available.

Crop Insurance

The Crop Insurance Act, another measure designed to take some of the risks out of farming, was passed in 1959. Of itself, the Act provides no specific insurance scheme but it permits the Federal Government to assist the provinces to do so by making direct contributions toward the cost of setting up crop insurance. Schemes may be organized on the basis of specific crops or areas within the province. Agreements between the provinces and the Federal Government set out the terms of the insurance coverage.

Initially, contributions from the federal treasury were limited to 50 per cent of the administrative costs incurred by the province and 20 per cent of the amount of premiums paid during the year. The federal authority was also permitted to make loans to any province up to 75 per cent of the amount by which payments required under policies of insurance exceeded the aggregate of: premium receipts for the year, the reserve payment of indemnities, and $200,000. Under the terms of the Act, those who take advantage of it are denied the right to collect under the Prairie Farm Assistance Act.

ARDA

A piece of legislation with far-reaching implications was passed by Parliament in 1961. This was the Agricultural Rehabilitation and Development Act, popularly known as ARDA. The Act was designed

to assist farmers operating small or otherwise unprofitable farm units to add to their incomes through alternative land use or supplementary employment opportunities. Another purpose of the Act was to promote the conservation of soil and water resources. The Act is enabling legislation, authorizing the Government to make agreements with provincial governments or agencies for the joint undertaking of: projects for the alternative use of lands classified as marginal or of low productivity; projects for the development of income and employment opportunities for rural agricultural areas; and projects for the development and conservation of soil and water resources of Canada.

A general federal-provincial agreement was approved and signed by all the provinces in the fall of 1962 and work began on a number of projects. These included research projects; soil and water conservation measures; development of community pastures; acquisition of submarginal and marginal land for alternative uses in forestry, wildlife and recreation; and the establishment of special rural development areas.

One of the first essentials to the success of such operations was a thorough knowledge of the soil resources. To this end, a new system of classifying soils according to their agricultural capabilities was started in 1963 as part of a Canada Land Inventory. Although the administration of the ARDA program was transferred to the Department of Forestry in March, 1964, the soil survey staff of the Department of Agriculture continued to work on this project, and by March, 1966, about 150 million acres had been classified according to the new system.

Farm Machinery Syndicate Credit Act

In December, 1964, the Farm Machinery Syndicate Credit Act was proclaimed. Under this Act loans are available through the Farm Credit Corporation to groups, or syndicates, of three or more farmers who wish to purchase farm machinery on a co-operative basis. Syndicates may borrow up to 80 per cent of the cost of the machinery, with a maximum of $15,000 per member or $100,000 per syndicate, whichever is the lesser amount.

OTHER NEW LEGISLATION

Agricultural Products Marketing Act

Prior to 1949, under provincial legislation, marketing boards had been established in several of the provinces. These boards, of course, had jurisdiction only within the province. In order to extend their powers to cover marketing operations between provinces or in export trade, the Agricultural Products Marketing Act was passed in 1949.

Agricultural Products Board Act

The Agricultural Products Board, originally established under the Emergency Powers Act in July, 1951, was set up for the purpose of administering food contracts and to act as the operating agent for the

Agricultural Prices Support Board. In the following year the Board was reappointed under the Agricultural Products Board Act of January, 1952.

Canada Dairy Products Act

On July 15, 1952, the new Canada Dairy Products Act was proclaimed and regulations under the Act were made effective from that date. This replaced the Dairy Industry Act and provided for the grading of dairy products formerly done under the old Act.

Canada Agricultural Products Standards Act

From time to time over the years, Parliament has enacted legislation having to do with the grading of specific agricultural products. Frequently these Acts required to be modified to meet changed conditions and this necessitated amending legislation. Since this is often difficult because of the press of parliamentary business, a better method of dealing with the problem was sought. Thus in 1955 an omnibus "Act to Establish National Standards for Agricultural Products and to Regulate International and Interprovincial Trade in Agricultural Products" was passed. Known as the Canada Agricultural Products Standards Act, this measure establishes the general principles concerning the grading and marking of these products but leaves the detail to be covered by regulations with respect to any particular product.

Meat Inspection Act

On March 1, 1959, the Meat Inspection Act became operative. Although passed by Parliament some years earlier, the Act awaited the completion of new regulations before going into force. The purpose of the new Act was to improve and strengthen the meat inspection service in Canada. Prior to its introduction, inspection of meats had been carried on for many years under a section of the Meat and Canned Foods Act. The new regulations provided for registration of establishments in which animals and poultry are slaughtered and processed; for inspection of premises, livestock, carcasses, and meat products; for establishment of standards for packaging; and for labelling and marking requirements.

Humane Slaughter of Food Animals Act

A measure passed by Parliament in 1959 designed to improve the conditions under which food animals were slaughtered, was the Humane Slaughter of Food Animals Act. On January 1, 1960, regulations under this Act became effective for all food-producing animals except sheep and swine. Eleven months later the regulations were extended to cover sheep and swine as well.

Feeds Act

In October of 1962 the new Feeds Act came into force and the Feeding Stuffs Act was revoked. Following the pattern of other recent legislation on commodities, the Act itself merely sets out general provisions. Regulations under the Act implement these provisions which take into account technological advances in the feed industry, nutrition, and feeding practices.

Dairy Commission Act

A piece of legislation of great concern to Canadian dairy farmers was enacted by Parliament in July, 1966. This was the Dairy Commission Act, designed "to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labor and investment, and to provide consumers of dairy products with a continuous and adequate supply of dairy products of high quality."

The Act provides for the setting up of a three-man Commission that will have broad powers to purchase, process, ship, store, or otherwise dispose of any dairy product; to make payments for the benefit of producers of milk and cream for the purpose of stabilizing prices; to investigate production, processing, or marketing of any dairy product; and to promote the use of dairy products and the improvement in quality and variety thereof.

Establishment of such a Commission has long been the aim of the dairy farmers who have felt the need for a regulatory body to exercise jurisdiction over the industry. In addition to the Commission itself, there will be a Consultative Committee of nine members to advise on matters relating to the production and marketing of dairy products.

WORK WITH WHEAT

In the early 1950's a new threat to Western wheat growing made its appearance in the form of a rust, virulent to standard rust-resistant varieties of wheat, known as race 15B. But plant breeders at the Rust Research Laboratory had already anticipated this development and were ready with a new wheat resistant to the 15B rust. In order to achieve rapid multiplication of the limited amount of available seed, arrangements were made to produce a winter crop in California and Arizona so that three successive crops were grown in two years. Subsequently named Selkirk, the new variety was made available in six-bushel lots for sowing in 1953. So keen was the demand that in the following year the Department's supply of seed was offered to the public in lots of not more than 12 bushels.

An interesting test has made it possible to assess the monetary worth of a new variety such as Selkirk. In 1964, ten years after its introduction, the Research Station at Winnipeg grew Selkirk in a comparative test with the partially resistant variety Thatcher and the rust-susceptible Marquis. Based on operating costs of $20 per acre, Marquis

gave a net loss of $15.67 per acre from a yield of 2.6 bushels. Thatcher returned $9.34 from a yield of 17.3 bushels. Selkirk with a yield of 20.6 bushels returned $15.97 per acre. The acreage of Selkirk in the rust-susceptible area of Manitoba and eastern Saskatchewan over the decade was almost 60 million acres. With rust abundant in six of the ten years, the advantage of Selkirk over Thatcher on comparable acreages would have been in the order of $386 million; had the choice lain between Marquis and Selkirk, the latter would have been worth $1.8 billion more.

The wheat stem sawfly causes serious losses to wheat growers in certain parts of Alberta and Saskatchewan and a number of varieties resistant to this pest have been developed by the Department. The first of these, named Rescue, was introduced in 1945. Although resistant to the sawfly, it was deficient in other respects and efforts to improve on it have continued.

A superior new variety named Cypress was introduced in 1963. It is better than Rescue in milling and baking qualities and more resistant to the sawfly than Chinook, a variety produced some years earlier.

THE FIGHT AGAINST ANIMAL DISEASES

Amongst the many services offered by the Department of Agriculture, none has a longer nor more distinguished history than the work done under the Animal Contagious Diseases Act. It will be recalled that one of the first pieces of legislation administered by the Department was an Act Respecting Contagious Diseases of Animals, passed by Parliament in 1869. Ever since that date continuous efforts have been exerted toward ridding the country of livestock diseases, and a vigilant watch has been maintained to prevent the introduction of others from abroad. To the Health of Animals Branch belongs the distinction of having been the first strictly agricultural branch to be organized within the Department.

Foot-and-Mouth Disease Strikes

During the month of February, 1952, an outbreak of foot-and-mouth disease was discovered in Saskatchewan. No time was lost in dealing with the emergency and the invasion was crushed by the prompt application of vigorous measures. Parliament passed an "Act for the Control and Extirpation of Foot-and-Mouth Disease" under which compensation regulations were established and a Board of Valuators was set up. The slaughter and burial of all infected and contact animals was carried out under the supervision of the Health of Animals Division, together with strict enforcement of quarantine measures. So effective were these measures that on August 19, 1952, Canada was declared to be free from foot-and-mouth disease, the outbreak having been completely eradicated.

Stamping out the disease required the slaughter of 1,343 cattle, 294 swine, and 97 sheep. Some 42 premises were involved, 29 of them

infected and 13 of them contact. The quarantine area covered 21 rural municipalities. Total cost of the operation, including compensation for animals and materials destroyed, was just under $1 million.

As a result of the outbreak, the United States placed an embargo on the shipment of live cattle and most meats from Canada as a precaution against the disease. The embargo remained in effect until March, 1953, and resulted in a tremendous accumulation of surplus meat in Canada. To assist the farmers, price supports were provided for cattle and continued for hogs. Arrangements were also made whereby carcass beef was shipped to Britain, in return for which New Zealand beef was supplied to the United States.

Bang's Disease

The fight against Bang's disease has also resulted in victory for the Departmental veterinarians. Beginning with the year 1957, a new program for the control of bovine brucellosis, or Bang's disease, was introduced by the Department. The procedure was to follow the pattern that had been successfully applied to the eradication of tuberculosis, namely, an area would be accepted under the program on the recommendation of a provincial department of agriculture. All susceptible cattle in the area were to be tested and infected animals disposed of, with compensation paid to the owners. Previous to this time, a joint federal-provincial policy of calf vaccination against brucellosis had been in effect for a number of years. This, along with other provincial programs, was believed to have reduced the incidence of the disease to the point where a national program was feasible.

Initially, the goal was to establish Brucellosis-Certified areas. These were defined as areas where not more than five per cent of the herds and not more than one per cent of all the cattle showed infection. A year after the introduction of the program, Prince Edward Island was declared a Brucellosis-Certified area, the first to achieve this status. In 1965 when the regulations were changed, 635 of the 725 areas in Canada were Brucellosis-Certified.

The amended regulations established a new designation "brucellosis-free," applicable to areas where not more than one per cent of the herds and not more than 0.2 per cent of all the cattle were infected.

Bovine Tuberculosis

Reference is made elsewhere in this text to the long drawn out battle against tuberculosis. That battle has been won. The year 1961 saw the culmination of a campaign that had been carried out by Departmental veterinarians off and on for nearly 70 years. In June of that year the last herd in Canada to be examined for bovine tuberculosis was tested in the Peace River District of Alberta. Although a start was made back in 1894, the program was unpopular then and it was not until 1919 that a systematic campaign of eradication was begun. The battle against tuberculosis involved nearly 50 million tuberculin tests;

compensation paid to farmers for the loss of infected cattle exceeded $21 million. Bovine tuberculosis has not, of course, been completely wiped out, but the incidence of this disease has been reduced to the point where it no longer causes serious economic losses. Effort now centers on maintaining a high standard of freedom from the disease.

Other Battles Against Disease

There have been other successes as well. Diseases that years ago took a heavy toll have not been seen in Canada for a long time. Two serious maladies of horses, glanders and dourine, once the cause of heavy losses, have been eliminated from the country. The last case of glanders occurred in 1938, and dourine has not been encountered since 1919.

Sheep scab has also been completely eradicated, the last case having been discovered in 1927. To prevent its reintroduction to Canada, all sheep imported are subject to inspection and must as well be certified by official veterinarians in the country of origin.

Hog cholera has been eradicated in Canada but from time to time is reintroduced, usually through the feeding of uncooked garbage containing pork scraps. Control is effected through a policy of slaughter and compensation; the feeding of garbage is permitted only under licence from the Department.

Occasional small outbreaks of anthrax are controlled by a policy of vaccination and quarantine, and precautions are taken against introduction of the disease from abroad.

Rabies will probably never be entirely eliminated because of the reservoir of infection amongst the wildlife population. Nevertheless the disease has ceased to be of great economic importance.

New Antibiotic

What may prove to be an outstanding discovery was announced during the spring of 1966. A powerful new antibiotic, named Myxin, discovered by a team of Departmental scientists, promises to be a major weapon against disease. A whole new field of antibiotic research has been opened up by this discovery, but further testing will have to be done before the real value of Myxin can be established.

EMPHASIS CHANGES IN LIVESTOCK BREEDING

The Lacombe Hog

An event took place in 1957 that marked the culmination of efforts carried on over a ten-year period to develop a new breed of livestock. In the fall of that year the first release of the new Lacombe hog was made when 50 boars were distributed. The new breed, developed by Departmental scientists, was tailored to specific requirements for a white bacon breed with no Yorkshire blood, and suitable for crossing with the Yorkshire. Named after the Lacombe Experimental Station where it was

developed, the breed is based on a combination of Danish Landrace, Berkshire, and Chester White. The method of chance draw was chosen as the fairest way for distributing the limited number of boars available.

Cattalo Breeding Project

In 1964 the cattalo breeding project, started by the Experimental Farms Branch back in 1916, was discontinued. Designed to combine the hardiness of the buffalo with the quality of domestic beef cattle, the project aroused much public interest during its early years. Although successful in demonstrating the feasibility of crosses between animal species, a lessened emphasis on the original objectives prompted the termination of the work.

Assistance to Horse Breeding Discontinued

The horse, for many years the principal source of farm power, has now been almost completely replaced by mechanical power. For more than half a century the Department had given assistance to the horse breeding industry but this came to an end on April 1, 1965, with the discontinuance of all premium policies for horse breeding.

Keeping Tab on the Horses

An activity of the Department that never fails to arouse curiosity is the supervision of betting at race tracks. By an amendment to the Criminal Code in 1920, betting at race tracks was restricted to the pari-mutuel system and the supervision of such betting was assigned to an officer appointed by the Minister of Agriculture. By the time the amending Act was passed, the racing season for that year was almost over so no steps were taken until the following year to put the amended section into effect. It is of interest to know that "Notwithstanding the fact that all the men employed were new to the work, they performed their duties most efficiently and satisfactorily, and in most cases received the active co-operation of the racing associations."

The Department is also responsible for the drafting and issuance of regulations under which the pari-mutuel is operated, and for rules governing photo finish camera, film patrol, and saliva and urine services. All these activities are carried out with the co-operation of the R.C.M.P.

This is one of the few services of the Department that costs the taxpayer nothing — a statutory levy is made on all money wagered to cover the costs of the supervision.

Electronic Computer Used

In October, 1963, the Livestock Division began processing milk production records by electronic computer and thereby greatly increased the accuracy and speeded the scheduling of certification. By 1966 records for all breeds of dairy cattle were being handled by computer.

New Procedures for Assessing Performance

Commencing the first of January, 1965, new procedures were adopted for assessing the performance of purebred swine. These predict the percentage of saleable trimmed cuts and give a more accurate estimate of the economic worth of each carcass than did the former method that involved specific measurements.

Travelling Exhibit

During the summer of 1965 the Department undertook an imaginative new approach to the selling of Canadian cattle abroad. A travelling exhibit of 20 Canadian Holsteins was flown to France where the cattle were taken on a two-month tour that included five major agricultural shows, and were seen by an estimated half million French farmers. The animals were selected by the Holstein Friesian Association and were purchased by the Department. Following this initial experiment, further exhibits were arranged by the Department of Trade and Commerce. Buyers have shown considerable interest in Canadian cattle, particularly in Eastern Europe.

In the fall of 1965 a reverse movement took place when for the first time cattle were permitted to move to Canada directly from Europe. The 113 animals of the Charolais breed had to meet stringent Canadian requirements as well as undergo a 30-day quarantine before leaving France. Under permit from the Health of Animals Branch, they were landed at the maximum security quarantine station at Grosse Ile, Que., for a stay of at least three months. In 1966 a further 90-day quarantine on the premises of the new owners was an additional precaution against the introduction of disease.

DISSEMINATION OF INFORMATION

One aspect of the Department's activities that has probably brought it to the attention of more Canadians than any other is the information program. Even in the early days of the Department, officials were alive to the necessity of passing on to farmers any new information that became available. The report for the year 1902 has this to say: "Carefully prepared, practical articles on live stock and kindred subjects have been sent weekly to over 800 newspapers throughout Canada, a large proportion of which have published them regularly. It is believed that more can be done by sending good articles to the small country papers than in almost any other way for by this means information is placed before many country people who cannot otherwise be reached."

Just as it was important for the Department to build up a sound body of agricultural information for the guidance of farmers in this developing country, so it was essential that the information be made available as quickly as possible to those who could use it. When the Department was young there were none of the present-day mass communications media; the printed word stood alone. So it was that besides

furnishing information to the newspapers, quite early in its history the Department began publishing bulletins to make known the results of experiments.

The first bulletins were published in 1887 by the Experimental Farms. One, entitled "Organization and Progress of Work," and another, "Testing the Vitality of Seeds," carry that date. From then on a continuous stream of useful publications has issued from the same source. The first publication of the Health of Animals Branch dealt with tuberculosis in cattle and appeared in 1897 over the name of D. McEachran. Dr. McEachran was Dean of the Faculty of Comparative Medicine and Veterinary Science at McGill University and also served as Chief Veterinarian for the Department of Agriculture.

No unit of the Department was set up to look after the matter of publishing until 1911 when a Publications Branch was organized under the direction of T. K. Doherty. Its function at first seems to have been limited to that of distribution but before long it was also producing bulletins. Throughout the years the functions have been expanded and the work has continued under a variety of designations, Publications Branch, Publicity and Extension Division, Information Service, and finally, Information Division.

Noteworthy Publications

Amongst the thousands of publications put out by the Department it might be of interest to mention a few that for one reason or another were outstanding. "Farm Weeds of Canada" written by Dr. James Fletcher early in the present century was a monumental work. Beautifully illustrated with color plates done from drawings by the late Norman Criddle, the book has gone through several editions and the plates have been published as separates without the accompanying text.

The first edition of the book was distributed free to public libraries, universities, colleges, high schools, rural schools, agricultural societies, and farmer's institutes and clubs. The second edition, revised and enlarged, was brought out in 1909 after the death of Dr. Fletcher, to meet the demand from the general public. Because of the high cost of its production, it was offered for sale at the nominal price of two dollars, a departure from the Departmental practice of free distribution that was adhered to for many years.

A publication of more recent years entitled "Farming in Canada" probably enjoyed a wider distribution than any other put out by the Department. This was an attempt to give to the uninitiated a general idea of Canadian agriculture and where and how it was carried on. Large editions were published in both English and French. In addition, the text was translated into German, Dutch, and Danish and editions brought out in these languages by another department of government for use in giving information to prospective immigrants.

Another venture in foreign language publication was undertaken during the early decades of the Century. At a time when a large influx

of immigrants from the Ukraine was flooding into the West, the Department produced a number of bulletins in the Ukrainian language to help the newcomers become better acquainted with Canadian agricultural techniques.

In addition to the more popular type of publication, the Department produced a wealth of highly technical matter representing important contributions to the accumulated scientific knowledge. A few examples will serve to illustrate. "Guide to Chemicals Used in Crop Protection" by Hubert Martin is an international classic on this important aspect of present-day agriculture. "The Siphonaptera of Canada," by G. P. Holland, a comprehensive monograph on Canadian fleas, enjoys worldwide recognition. J. H. Craigie's "Studies in Cereal Diseases" presents fundamental research on the development of new races of wheat rust organism.

The list of publications that have been put out by the Department fills a large book and covers every conceivable aspect of agriculture. Bulletins that tell of new developments, that exhort, condemn, and advise are all to be found in the list. They are directed to experts and amateurs, scientists and laymen, housewives, home gardeners, and students, as well as to commercial farmers. Special publications for specific purposes have been produced from time to time, as for example the Wartime Production Series, designed to aid the war effort. Some eighty odd numbers in this series were produced and the circulation ran into the millions.

For many years the Department followed the practice of free distribution of its publications. Occasional exceptions were made but these were few until the early 1930's when a pricing policy was adopted. Within a few years this was discontinued. Free distribution was resumed, and still applies to the great majority of the Department's publications.

Periodicals

The Department's first venture into the field of periodical publishing was in 1914 when the "Agricultural Gazette of Canada" was launched. Its aim was to provide a source of information on the policies and activities of the federal and provincial departments of agriculture. It was not intended to be a news source comparable to the daily and weekly press but rather to put on record the progress of agriculture throughout the country. In the words of a contemporary report, "No other publication undertakes to do this and therefore the Gazette fills a sphere that no other publication fills, and does so without trespassing on the field covered by the agricultural press." Publication of the Gazette was discontinued in 1924.

Another periodical series, this time put out by the Experimental Farms Branch, was started in 1915 under the title "Seasonable Hints." Issued three times yearly, these pamphlets contained useful information on a variety of topics of interest to farmers. Two editions were produced, one for the Prairie Provinces, the other for Eastern Canada and

British Columbia. Seasonable Hints enjoyed a very wide distribution, at one time reaching over three-quarters of a million copies per issue. In 1932 Seasonable Hints was discontinued.

In 1956 a new quarterly periodical was started under the title "Research for Farmers." Aimed primarily at workers in agricultural extension, it carried articles reporting developments in the Department's research program. This publication has since been renamed "Canada Agriculture."

Other Media

The Publications Branch, originally responsible only for distributing the publications of the Department, gradually took on other tasks. Editing of manuscripts, original writing, release of information to the press, preparation of exhibits at fairs and exhibitions, all became responsibilities of the Branch and its successors under various names. With the advent of motion pictures, radio, and television, these modern methods of mass communication were all employed in turn in the dissemination of information by the present Information Division.

DEPARTMENTAL LIBRARY

A necessary adjunct to any research establishment is a good working library abundantly stocked with reference material and up-to-date periodical literature covering the fields of interest. The Departmental library fills both these requirements. From its modest beginning it grew steadily under the direction of Miss A. L. Shaw, the first trained librarian to take charge of the library and its guiding spirit for 35 years. Just

Miss A. L. Shaw

The first trained librarian to serve the Department of Agriculture. She was largely responsible for building up the Library which she headed for 35 years.

how modest was its beginning is revealed by a comment from the Departmental report of 1912 which says: "The publications in the library have now reached the number of 1,200 bound volumes and over 3,000 pamphlets." Today, with more than 300,000 volumes in the central library at Ottawa, it is the main national collection in the life sciences, the most comprehensive assembly of bio-agricultural and related literature in Canada, and one of the great agricultural libraries of the world.

In 1950, the first regional libraries were established with qualified librarians in charge and under the direction of the Chief Librarian in Ottawa. Additional branch libraries have been added from time to time at key locations; 20 were in operation at the beginning of 1967.

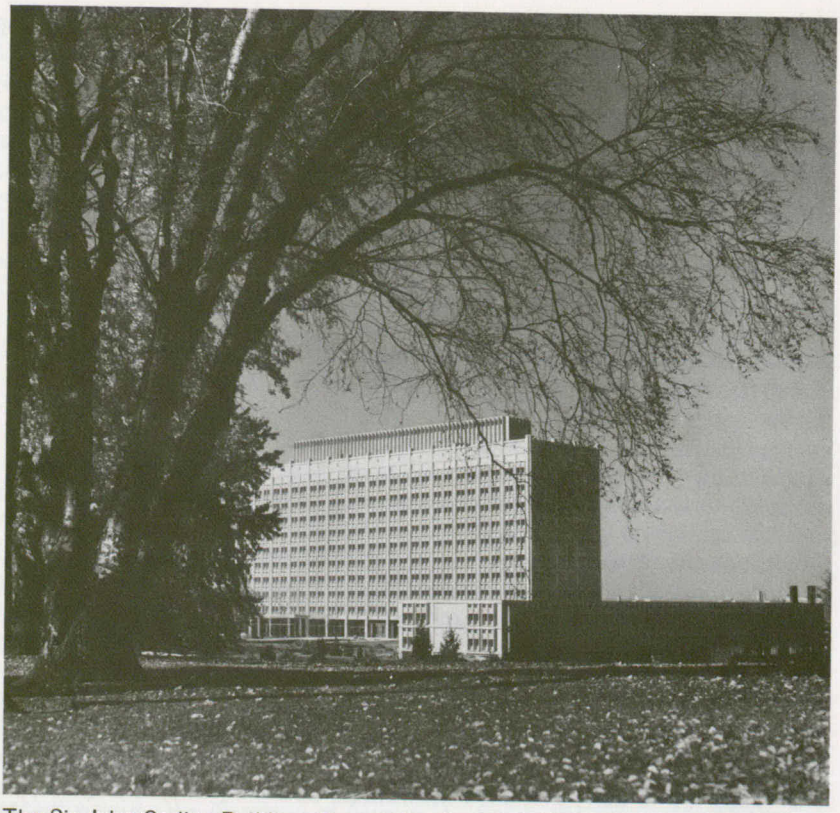
There is one important aspect of the Departmental organization that should not be overlooked. Although the headquarters is in Ottawa, much the larger proportion of the departmental staff operates away from the Capital. Numerous references have been made to the farflung chain of experimental and research establishments. Mention, too, has been made of various regional laboratories and district offices but the fact is that all the regulatory services of grading and inspection, promotional, and other field work operate from centers throughout the country where their particular services are required. The people who actually administer the great bulk of the Departmental legislation are in these centers. They are in daily contact with farmers and the trade, and the reputation of the Department with the general public largely rests with them.

During the past 100 years the Department has seen many changes at the political level. Nineteen different Ministers have presided over the Department for varying periods of time and five others have served briefly in an acting capacity. The administrative head has changed less frequently; nine Deputy Ministers have spanned a century of service. The names of the Ministers and Deputy Ministers together with their periods of service are shown in Appendix I.

Many other men and women have left their mark on the Department both at headquarters and in the field. It is not possible to mention them all here, and to single out any would inevitably mean the omission of others equally deserving of mention.

Throughout its long history, the Department of Agriculture has frequently altered its structure and policies in tune with the needs of the times. It has guided an infant agriculture through a pioneer period, helped it to become the leading industry of the country, and rendered assistance in times of disaster. Some of the many Departmental contributions have been mentioned in these pages but much more might be told.

The present Department bears little resemblance to the original. Agriculture, too, has changed vastly from those far-off pioneer days.



The Sir John Carling Building, the new headquarters of the Department in Ottawa, occupied in 1967.

But with its complexities have come more and more problems to be solved, and the purpose of the Department remains the same — service to Canadian agriculture.

APPENDIX I

MINISTERS OF AGRICULTURE SINCE CONFEDERATION

First Ministry (Liberal-Conservative)	July 1, 1867 -	Nov. 5, 1873
Prime Minister, the Hon. Sir John A. Macdonald		
Senator Jean Charles Chapais	July 1, 1867 -	Nov. 15, 1869
Hon. Christopher Dunkin	Nov. 16, 1869 -	Oct. 24, 1871
Hon. John Henry Pope	Oct. 25, 1871 -	Nov. 5, 1873
Second Ministry (Liberal)	Nov. 7, 1873 -	Oct. 9, 1878
Prime Minister, the Hon. Alexander Mackenzie		
Senator Luc Letellier de St. Just	Nov. 7, 1873 -	Dec. 14, 1876
Hon. Isaac Burpee (Acting Minister)	Dec. 15, 1876 -	Jan. 25, 1877
Hon. Charles Alphonse Pantaleon Pelletier	Jan. 26, 1877 -	Oct. 9, 1878
Third Ministry (Liberal-Conservative)	Oct. 17, 1878 -	June 6, 1891
Prime Minister, the Hon. Sir John A. Macdonald		
Hon. John Henry Pope	Oct. 17, 1878 -	Sept. 24, 1885
Hon. John Carling	Sept. 25, 1885 -	June 6, 1891
Fourth Ministry (Liberal-Conservative)	June 16, 1891 -	Nov. 24, 1892
Prime Minister, the Hon. Sir John Joseph Caldwell Abbott (Senator)		
Senator John Carling (Carling resigned from Senate Feb. 17, 1892 to contest a by-election and was elected Feb. 28, 1892)	June 16, 1891 -	Nov. 24, 1892
Fifth Ministry (Liberal-Conservative)	Dec. 5, 1892 -	Dec. 12, 1894
Prime Minister, the Rt. Hon. Sir John Sparrow David Thompson		
Senator Auguste Real Angers	Dec. 5, 1892 -	Dec. 12, 1894
Sixth Ministry (Liberal-Conservative)	Dec. 21, 1894 -	Apr. 27, 1896
Prime Minister, the Hon. Sir Mackenzie Bowell		
Senator Auguste Real Angers	Dec. 21, 1894 -	July 11, 1895
Hon. Joseph Aldric Ouimet (Acting Minister)	July 12, 1895 -	Dec. 20, 1895
Hon. Walter Humphries Montague	Dec. 21, 1895 -	Jan. 6, 1896
Senator Donald Ferguson (Acting Minister)	Jan. 7, 1896 -	Jan. 14, 1896
Hon. Walter Humphries Montague	Jan. 15, 1896 -	Apr. 27, 1896
Seventh Ministry (Liberal-Conservative)	May 1, 1896 -	July 8, 1896
Prime Minister, the Hon. Sir Charles Tupper		
Hon. Walter Humphries Montague	May 1, 1896 -	July 8, 1896
Eighth Ministry (Liberal)	July 11, 1896 -	Oct. 6, 1911
Prime Minister, the Rt. Hon. Sir Wilfrid Laurier		
Hon. Sydney Arthur Fisher	July 13, 1896 -	Oct. 6, 1911
Ninth Ministry (Conservative)	Oct. 10, 1911 -	Oct. 12, 1917
Prime Minister, the Rt. Hon. Sir Robert Laird Borden		
Hon. Martin Burrell	Oct. 10, 1911 -	Oct. 12, 1917
Tenth Ministry (Unionist)	Oct. 12, 1917 -	July 10, 1920
Prime Minister, the Rt. Hon. Sir Robert Laird Borden		
Hon. Thomas Alexander Crerar (L)	Oct. 12, 1917 -	June 11, 1919
Vacant	June 11, 1919 -	June 17, 1919
Hon. James Alexander Calder (L) (Acting Minister)	June 18, 1919 -	Aug. 1, 1919
Hon. Simon Fraser Tolmie (C)	Aug. 2, 1919 -	July 10, 1920

Eleventh Ministry (Unionist "National Liberal and Conservative Party") ..... July 10, 1920 - Dec. 29, 1921
Prime Minister, the Rt. Hon. Arthur Meighen
Hon. Simon Fraser Tolmie ..... July 10, 1920 - Dec. 29, 1921

Twelfth Ministry (Liberal) ..... Dec. 29, 1921 - June 28, 1926
Prime Minister, the Rt. Hon. William Lyon Mackenzie King
Hon. William Richard Motherwell ..... Dec. 29, 1921 - June 28, 1926

Thirteenth Ministry (Conservative) ..... June 29, 1926 - Sept. 25, 1926
Prime Minister, the Rt. Hon. Arthur Meighen
Hon. Henry Herbert Stevens (Acting Minister) ... June 29, 1926 - July 12, 1926
Hon. Simon Fraser Tolmie ..... July 13, 1926 - Sept. 25, 1926

Fourteenth Ministry (Liberal) ..... Sept. 25, 1926 - Aug. 6, 1930
Prime Minister, the Rt. Hon. William Lyon Mackenzie King
Hon. William Richard Motherwell ..... Sept. 25, 1926 - Aug. 6, 1930

Fifteenth Ministry (Conservative) ..... Aug. 7, 1930 - Oct. 23, 1935
Prime Minister, the Rt. Hon. Richard Bedford Bennett
Hon. Robert Weir ..... Aug. 7, 1930 - Oct. 23, 1935

Sixteenth Ministry (Liberal) ..... Oct. 23, 1935 - Nov. 15, 1948
Prime Minister, the Rt. Hon. Wiliam Lyon Mackenzie King
Hon. Thomas Alexander Crerar ..... Oct. 23, 1935 - Oct. 27, 1935
(Acting Minister)
Rt. Hon. James Garfield Gardiner ..... Oct. 28, 1935 - Nov. 15, 1948

Seventeenth Ministry (Liberal) ..... Nov. 15, 1948 - June 21, 1957
Prime Minister, the Rt. Hon. Louis Stephen St. Laurent
Rt. Hon. James Garfield Gardiner ..... Nov. 15, 1948 - June 21, 1957

Eighteenth Ministry (Conservative) ..... June 21, 1957 - Apr. 22, 1963
Prime Minister, the Rt. Hon. John George Diefenbaker
Hon. Douglas Scott Harkness (Acting Minister) .. June 21, 1957 - Aug. 7, 1957
Hon. Douglas Scott Harkness ..... Aug. 7, 1957 - Oct. 11, 1960
Hon. Francis Alvin George Hamilton ..... Oct. 11, 1960 - Apr. 22, 1963

Nineteenth Ministry (Liberal) ..... Apr. 22, 1963 -
Prime Minister, Rt. Hon. Lester Bowles Pearson
Hon. Harry William Hays ..... Apr. 22, 1963 - Dec. 17, 1965
Hon. J. J. Greene ..... Dec. 18, 1965 -

DEPUTY MINISTERS OF THE DEPARTMENT

Dr. J. C. Taché 1867-1888
John Low 1888-1895
W. B. Scarth 1895-1902
G. F. O'Halloran 1902-1918
J. H. Grisdale 1918-1932
H. Barton 1932-1949
J. G. Taggart 1949-1959
S. C. Barry 1960-1966
S. B. Williams 1967-

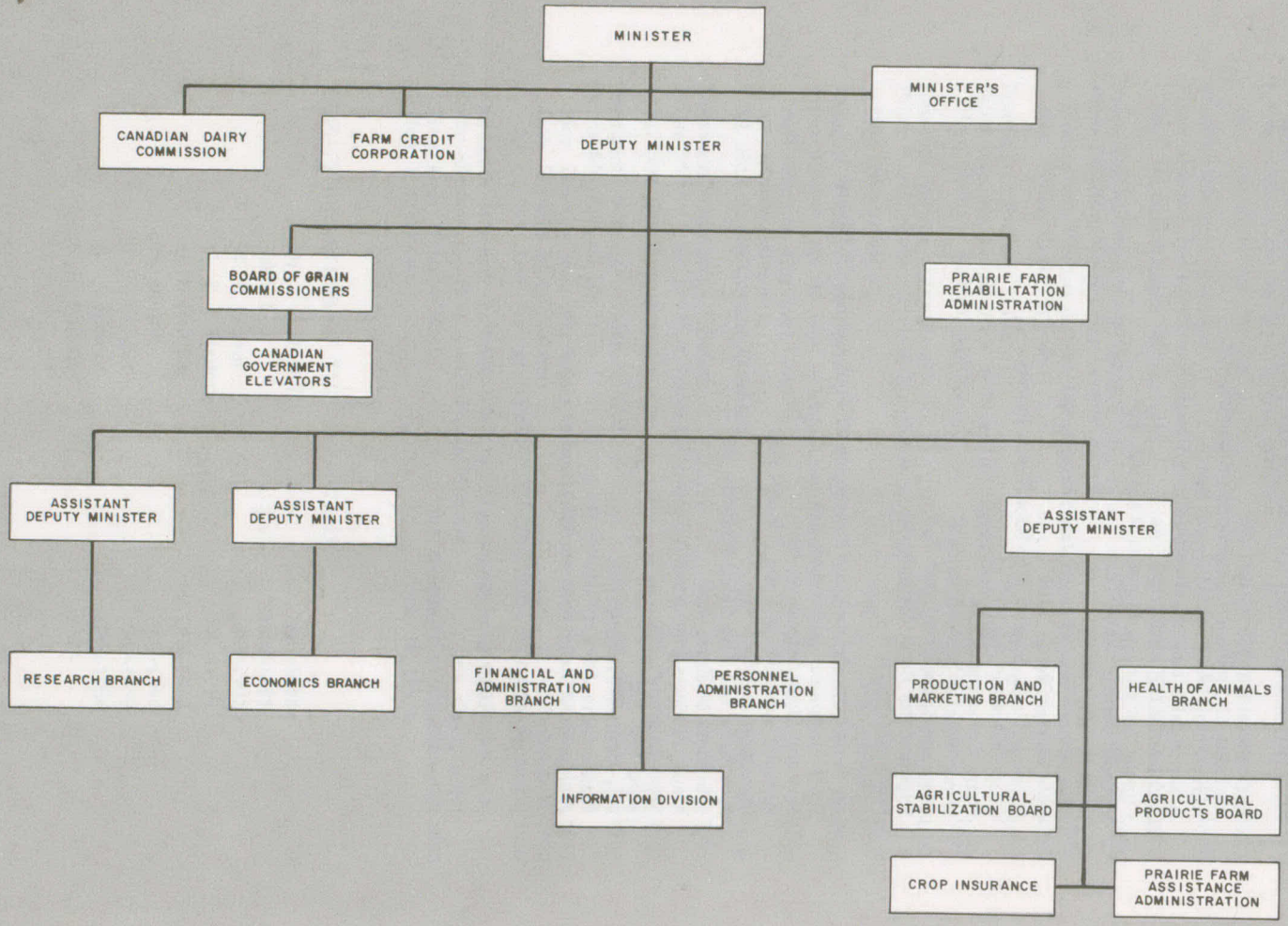
APPENDIX II

ACTS ADMINISTERED BY THE DEPARTMENT OF AGRICULTURE

Agricultural Products Board Act
Agricultural Products Co-operative Marketing Act
Agricultural Products Marketing Act
Agricultural Stabilization Act
Animal Contagious Diseases Act
Canada Agricultural Products Standards Act
Canada Dairy Products Act
Canada Grain Act
Cheese and Cheese Factory Improvement Act
Cold Storage Act
Criminal Code, Section 178, Race Track Betting
Crop Insurance Act
Dairy Commission Act
Department of Agriculture Act
Destructive Insect and Pest Act
Experimental Farm Stations Act
Feeds Act
Fertilizers Act
An Act for the Control and Extirpation of Foot and Mouth Disease
Fruit, Vegetables and Honey Act
Hay and Straw Inspection Act
Humane Slaughter of Food Animals Act
Inspection and Sale Act
Live Stock and Live Stock Products Act
Live Stock Pedigree Act
Maple Products Industry Act
Meat Inspection Act
Milk Test Act
Pest Control Products Act
Prairie Farm Assistance Act
Prairie Farm Rehabilitation Act
Seeds Act
Wheat Co-operative Marketing Act

Acts Administered by the Farm Credit Corporation

Farm Credit Act
Farm Machinery Syndicates Act


MINISTER
MINISTER'S OFFICE
CANADIAN DAIRY COMMISSION
FARM CREDIT CORPORATION
DEPUTY MINISTER
BOARD OF GRAIN COMMISSIONERS
PRAIRIE FARM REHABILITATION ADMINISTRATION
CANADIAN GOVERNMENT ELEVATORS
ASSISTANT DEPUTY MINISTER
ASSISTANT DEPUTY MINISTER
ASSISTANT DEPUTY MINISTER
RESEARCH BRANCH
ECONOMICS BRANCH
FINANCIAL AND ADMINISTRATION BRANCH
PERSONNEL ADMINISTRATION BRANCH
PRODUCTION AND MARKETING BRANCH
HEALTH OF ANIMALS BRANCH
INFORMATION DIVISION
AGRICULTURAL STABILIZATION BOARD
AGRICULTURAL PRODUCTS BOARD
CROP INSURANCE
PRAIRIE FARM ASSISTANCE ADMINISTRATION

APPENDIX III

PRESENT ORGANIZATION OF THE DEPARTMENT OF AGRICULTURE

As with all other departments of government, the Minister is the political head of the Department of Agriculture. He stands at the apex of the organizational pyramid, answerable to Parliament and the people for everything that the Department does. Since he cannot carry all these responsibilities alone, he delegates them to his Deputy Minister, who is the administrative head of the Department, and to three Assistant Deputies — Assistant Deputy Minister (Research), Assistant Deputy Minister (Production and Marketing), and Assistant Deputy Minister (Economics). Under these officials are Directors General, Directors, and a host of other officers down the long line of authority that stretches through the whole fabric of the Department.

Within the Department of Agriculture there are six Branches: Financial and Administration, Personnel Administration, Research, Production and Marketing, Health of Animals, and Economics. Outside the branch structure lie the offices of the Minister and the Deputy Minister, together with various other units. Of these, the Farm Credit Corporation and the Canadian Dairy Commission report directly to the Minister. The Board of Grain Commissioners, the Prairie Farm Rehabilitation Administration, and the Information Division report to the Deputy Minister. The Agricultural Stabilization Board, the Agricultural Products Board, the Prairie Farm Assistance Administration, and the Crop Insurance Administration come directly under the Assistant Deputy Minister (Production and Marketing).

FINANCIAL AND ADMINISTRATION BRANCH

Within the Financial and Administration Branch are all those ancillary services that are necessary for the operation of any large organization. These are provided by the Divisions of Financial Administration, Administration, Management Services, and Data Processing. An Emergency Measures Planning office is attached to the Administration Division, as is the Departmental Library.

PERSONNEL ADMINISTRATION BRANCH

This Branch provides the personnel service for all the employees of the Department, including scientific and professional groups and supporting staff across Canada. Four divisions cater to the needs of the 11,000 employees and give guidance on the application of personnel policies: Employment and Staff Services, Classification and Pay, Research and Development, and Staff Relations.

RESEARCH BRANCH

At the head of the Research Branch is the Assistant Deputy Minister (Research) under whom is the Director General, an Associate Director General, and four Assistant Directors General. One of these is responsible for Eastern Research Stations and Farms, another for Western Research Stations and Farms, the third for Research Institutes and the fourth for Administration. Headquarters of the Branch is at the Central Experimental Farm, Ottawa.

In developing and co-ordinating the research program, the Director General is assisted by 12 Research Coordinators who together cover the whole range of Branch responsibility. These Coordinators are also the chief scientific advisors to the Assistant Directors General and to Directors of establishments and individual research officers, and they are the headquarters' experts on problems of the industry.

The primary purpose of the Research Branch is to apply the principles and methods of scientific investigation to the everyday problems of agriculture, to the end that farmers may become more efficient and prosperous, and may produce and market better quality food products for the nourishment of the people. In pursuit of this objective, efforts are made to raise by amendment and management, the productivity of the soil; to improve the yield and quality of crops as

well as cropping practices; to better the quality and productivity of livestock; and to protect crops and livestock from the ravages of insects and other pests.

Although the Research Branch is the principal agency for agricultural research in Canada, it is not the only one. Duplication of effort is avoided through the agency of an Agricultural Services Co-ordinating Committee representative of the federal and all provincial Departments of Agriculture, along with national and provincial research councils, and agricultural schools and colleges.

The program of individual establishments fits into the broad outline of the national program but each establishment is responsible for proposing projects that will most benefit the agriculture of its region or its particular field of scientific responsibility.

Research Institutes

Within the Branch there are eight Research Institutes, six in Ottawa, one in London, and one in Belleville, Ontario. Their work supports the research conducted throughout the Branch, aimed at the solution of farm problems. The Institutes seek out new knowledge about plants, animals, and soils in the interest of improving production.

Animal Research Institute

This Institute studies the means by which animals and poultry produce meat, milk, and eggs. The genetics, or heritable characters of efficient production, and the effect of nutrition and environment are matters that are under investigation. Biochemical research is applied to the means by which animals convert forage into animal food products and this points the way to increased productivity. Metabolic disorders are a subject of investigation but pathological conditions are not.

Cell Biology Research Institute

Microorganisms important to agriculture, particularly the soil bacteria, are the subject of the research carried out by this Institute. Special attention is given to bacteria, fungi and viruses that induce plant tumors. Problems are approached from the points of view of genetics, biochemistry, physiology and nutrition. For example, in studying plant virus diseases, one group of research workers studies the viruses and their vectors and the relationships between the two, while another group is making a biochemical study of viruses. Still other groups are investigating the frost hardiness of plants, and bacterial fungal diseases.

Entomology Research Institute

Insects have an important influence on agricultural production. Many are destructive to crops and harmful to animals. Others are beneficial. To control the harmful species and encourage the useful ones requires a knowledge of their physical and biological behaviour. This is a subject for study in this Institute as is also the taxonomy of insects. The Institute maintains the Canadian National Collection of Insects and provides an identification service for Departmental officers and the general public.

Food Research Institute

The Food Research Institute studies the characteristics of foods that affect quality and consumer acceptance, with a view to enhancing these factors. Research is directed toward improving storage and processing procedures and to assisting marketing through the development of new processed food products. New discoveries in engineering, physics, and chemistry are investigated to determine possible application to the food industry.

Plant Research Institute

The nature of plant growth and the effects of environment are studied in this Institute with the objective of improved crop production. The Institute is also the center of research on classification of higher plants and fungi and it maintains an inventory and description of Canadian plant life. Such information is essential to the agricultural industry.

Soil Research Institute

This Institute is concerned with soil as Canada's most valuable resource and the foundation of all agriculture. Classification and description of Canadian soils

is a responsibility of the Soil Research Institute. Knowledge of the physical, chemical, and biological properties of soils is essential if they are to be used to full capacity for crop production, and the Institute carries on research into these matters. Efficient land use rests on the kind of information derived from these studies.

Research Institute, Belleville

Successful agriculture depends in large measure on effective control of insect pests. The Belleville Research Institute concerns itself with methods of insect control other than by the use of chemicals. Research is conducted into the behaviour and environment of insects to ascertain their response to these non-chemical control measures. Parasites and predators of insects are important subjects of research, and studies are also carried on to determine the effects of light and sound as potential methods of insect control.

Research Institute, London

Research into the use of chemicals for the control of agricultural pests is the primary concern of this Institute. The properties of chemical control agents are studied with the object of discovering more effective control materials that have a greater specificity towards particular pests. The work of this Institute is integrated with pest control studies carried on throughout the Branch.

Research Services

Besides Research Institutes, the Branch operates three Research Services. These provide services in the form of facilities for chemical analysis, agricultural engineering, and the application of statistical methods and computer techniques to research problems.

Eastern Research Establishments

Research Station, St. John's West, Nfld.

This Station plays a leading role in the development of agriculture in Newfoundland. Matters receiving particular attention are fertility requirements for mineral soils, development of bog land for agricultural use, crop production practices, control of pests, poultry management, and potato breeding.

Research Station, Charlottetown, P.E.I.

This program is concerned mainly with the soils of Prince Edward Island, and with maximum production of forage crops, involving studies of plant nutrition and physiology. The Station is the center for cereal breeding in the Atlantic region, and production practices for horticultural crops and tobacco are also studied. The National Dairy Breeding Project unit for the Atlantic region is housed at Charlottetown.

Experimental Fur Ranch, Summerside, P.E.I.

Feeding of ranch-bred mink, and nutritional disorders associated with diet are the subjects of research at this location.

Research Station, Kentville, N.S.

This is the horticultural research center for the Atlantic region. It deals with management, physiology, nutrition, and breeding, of fruit trees, small fruits, and vegetables. Responsibility for research on pesticide residues and for poultry breeding and management for the whole region rests with this station, which is also well known for its work on protection of orchards against insects and on fruit storage.

Under the direction of this station is an Experimental Farm at Nappan where the principal lines of work include adaptation and management of field crops, management of dykeland and upland soils of the region, weed control in native blueberries and feeding and management of beef cattle.

Research Station, Fredericton, N.B.

This is the main station in Canada devoted to research with potatoes. Breeding and genetics, nutrition and physiology, and control of insects and diseases are all under study. Seedlings arising from the breeding program are tested at other stations all across Canada. Animal nutrition, forage crop management, and agri-

cultural engineering are other elements in the research program. The Fredericton Station is headquarters for the New Brunswick Soil Survey unit.

Research Station, La Pocatière, Que.

Forage and cereal crop breeding, disease and insect control, soil fertility, and plant nutrition are the main subjects of research at this center. The Experimental Farms at Normandin and Caplan, Que., are directed from La Pocatière.

Experimental Farm, L'Assomption, Que.

Main lines of work here are concerned with the breeding and cultural management of cigar and cigarette tobacco for Quebec. Poultry research is also carried on.

Research Station, Lennoxville, Que.

Lennoxville is the center for animal research in Quebec. The program includes breeding, management, and physiology of dairy cattle, sheep, and swine. Other lines of work are crop management, soil fertility, and plant nutrition.

Research Station, St. Jean, Que.

This is the horticultural research center for Quebec. Breeding and management of horticultural crops, plant nutrition and physiology, control of insects and diseases, soil fertility and the management of organic soils are the main lines of study.

Research Station, Delhi, Ont.

This Station is devoted solely to tobacco research for which it is the principal establishment. Studies are directed toward culture and management, breeding and genetics, insect and disease control, and physiology and curing of the crop.

Research Station, Harrow, Ont.

Harrow is the center for research into a wide range of cash crops grown in southwestern Ontario. Cultural practices, breeding and genetics, insect and disease control, soil fertility, irrigation and pesticide testing are all under investigation. Particular attention is paid to greenhouse crops, which are important in the area.

Research Station, Ottawa, Ont.

This Station is located at the Central Experimental Farm where it serves Eastern Ontario in particular and Eastern Canada generally. Fields of interest include the breeding of cereals, forage crops, corn, strawberries, apples, vegetables, and ornamentals. Culture and nutrition of horticultural crops, control of crop diseases, management of field crops, plant genetics, plant physiology, and the development of apple rootstocks are other elements in the research program. Experimental Farms associated with the Ottawa Station are at Fort William, Kapuskasing and Smithfield, Ont.

Research Station, Vineland, Ont.

Located in the heart of Ontario's tender fruit belt, this station features chemical control of orchard pests, identification and control of viruses affecting tree fruits, identification and control of nematodes, and diseases of fruit crops and ornamentals.

Western Research Establishments

Research Station, Brandon, Man.

This Station is a center for research on breeding and the physiology of reproduction in beef cattle, swine, and poultry. Cereal breeding, particularly barley; soil and crop management; soil fertility and salinity; and forage crop production are other matters under study.

Research Station, Morden, Man.

This is the main horticultural station for the Prairie area. It is concerned with the development of new varieties of fruits, vegetables, and ornamentals adapted to the vigorous climate of the West. Attention is also centered on the breeding of sunflowers, corn, and flax and on management, fertility, and disease problems of these crops.

Research Station, Winnipeg, Man.

The Winnipeg Station is the main location for the development of rust-

resistant cereal varieties. Research is also directed toward a better understanding of diseases and insects attacking cereal crops and the interactions between these parasites and the host plant. Studies of insects attacking stored cereals and their products are featured as well. The Station is the home of the Manitoba unit of the Soil Survey program.

Experimental Farm, Indian Head, Sask.

Problems of crop and soil management and of soil fertility are studied at this location. It is also a center for seed increase of new varieties.

Research Station, Melfort, Sask.

This is a major center for research in pasture and forage utilization in Western Canada. Other lines of investigation include forage seed production, soil fertility, weed control, and nutrition studies with beef cattle and swine.

Research Station, Regina, Sask.

Regina is the center for weed research in Western Canada, dealing with problems of cultural and chemical control, application of chemicals, and the effects of chemical residues. It is also concerned with wheat breeding and is the main seed increase and distributing center for new varieties of crops developed by the Department.

Research Station, Saskatoon, Sask.

The Saskatoon Station carries on breeding with forage crops and rape. Other important elements of the research program are control of grasshoppers and other insects, of root rots and other diseases of crops, particularly cereals, along with studies of mosquitoes and biting flies. The Saskatchewan Soil Survey unit is located at Saskatoon.

Research Station, Swift Current, Sask.

Wind erosion, moisture conservation, and cropping practices for the most arid parts of the Prairies are under study at the Station. Attention is also given to agricultural engineering, forage crop and cereal breeding, range and pasture management, irrigation, and turkey nutrition.

Research Station, Beaverlodge, Alta.

Beaverlodge is the center for northern agricultural research, together with the substations at Fort Vermilion, Alta., Fort Simpson, N.W.T., Mile 1019, Y.T. and Prince George, B.C. The program is concerned with the soil-plant-climate relationships in the long-day, short-summer environment. Other matters of study are soil fertility and management, forage and forage seed production, breeding of crops adapted to northern areas, weed control, and conversion of bushland for agricultural purposes.

Research Station, Lacombe, Alta.

Breeding research to improve the efficiency of beef cattle, swine, and poultry is a leading element in the program at Lacombe. Also important is the study of fertility and management of the gray wooded, black, dark brown, brown, and solonetzic soils of central Alberta. Other lines of work include cropping practices, cereal and forage breeding, crop diseases, and weed control.

Research Station, Lethbridge, Alta.

Lethbridge is the principal location for research on irrigation farming, including the efficient use of water, crop and soil management, drainage, and weed control. The program also includes problems of dryland farming and range management; cereal and forage breeding; breeding of dairy cattle, beef cattle, and sheep; and animal and poultry nutrition. This Station is the main center for study of insects affecting livestock and also does work on insects and diseases affecting the crops of the area.

Research Station, Agassiz, B.C.

This Station is a major unit in the National Dairy Cattle Breeding Program. It is concerned also with soil fertility, crop and soil management, small-fruit breeding, and with management problems with dairy cattle and poultry peculiar to the area.

Research Station, Kamloops, B.C.

Efficient use of range lands in central British Columbia is under study at Kamloops. Also of concern are insect pests of the region and the use of irrigated lowlands for pasture and hay. Kamloops is the Canadian center for the study of ticks affecting animals.

Experimental Farm, Saanichton, B.C.

This is primarily a horticultural station. Its program is concerned with soil fertility and with disease and insect problems affecting the crops of the region, mainly small fruits, nursery stock, flower bulbs, and other ornamentals, as well as greenhouse crops.

Research Station, Summerland, B.C.

Summerland is the principal horticultural station for mainland British Columbia. It deals with management, irrigation, and fertilizer requirements of fruit and vegetable crops; efficient handling, storage, and processing of these crops; as well as the control of insects and diseases that attack them. It also is responsible for crop and soil management problems in the southern interior of the province. A special activity is the study of bloat in cattle.

Research Station, Vancouver, B.C.

This station is the key center for studies on the virus diseases of fruits, vegetables, and forage crops. It carries on research into the chemistry, physiology, and practical control of these disorders. Other work includes research on the destructive insects of the area, their control by chemical means, and the residue problems that result from such controls. The British Columbia unit of the Soil Survey is located at this Station.

PRODUCTION AND MARKETING BRANCH

The Production and Marketing Branch comprises seven Divisions and two Sections. Under the Assistant Deputy Minister (Production and Marketing) is the Director General of the Branch, and each Division is in charge of a Director.

Four of the Divisions, Livestock, Poultry, Dairy, and Fruit and Vegetable, share a common responsibility for the grading and inspection of agricultural products. Each administers grading legislation in its own commodity field. Formerly this authority rested in a number of different Acts but the Agricultural Products Standards Act of 1955 provides general authority for the grading of all agricultural products with specific regulations applying to each individual commodity.

Procedure with respect to grading varies with different commodities. The grading of hog, beef, and lamb carcasses is done by employees of the Livestock Division. With fruits, vegetables, and poultry products, grading is done by the trade and the function of the Department is to inspect the graded products to make sure that the work has been done properly and that the products actually meet the grades designated. The grading of cheese and of butter in 56-pound boxes is done by Departmental graders but butter in prints is graded by the trade.

The Department establishes national grade standards, applicable to products moving in interprovincial or export trade. By arrangement with the provinces, a provincial government may require that products moving within the province be graded in accord with the national standards. In such cases the province usually designates the federal inspectors as inspectors under its legislation.

Another function common to the four commodity divisions is that of providing a markets information service. Field officers of the Division gather market and price information on various commodities for the Markets Information Section which compiles and publishes data for use of interested persons.

Besides the activities they share in common, each of the commodity divisions carries on other work peculiar to its field of interest.

Livestock Division

This Division administers a section of the Live Stock and Live Stock Products Act relating to stockyards. By definition of the Act, a stockyard is "a

public market for the purchase and sale of livestock declared by the Minister to be a stockyard." With few exceptions, only yards at the large terminal markets have been designated as stockyards under the Act. The purpose of the Act is to ensure that ethical trading practices are followed at the yards. The Department holds the proprietor responsible for meeting these requirements and the only function assumed directly by the Department is that of checking the shipper's trust accounts.

The Livestock Division also administers livestock testing programs and is responsible for the supervision of racetrack betting.

Dairy Products Division

Under the Canada Dairy Products Act the Dairy Products Division administers regulations governing the grading of creamery butter, cheddar cheese, and dry skim milk; the inspection for quality of all manufactured dairy products; and the marketing of these products.

Also administered by this Division is the Cheese and Cheese Factory Improvement Act. This provides for financial assistance to factory owners for certain improvements, and for payments of quality premiums of one or two cents a pound for high-scoring cheese.

Officers of the Division assist the Agricultural Stabilization Board in carrying out their dairy policies.

Poultry Division

In addition to its grading and inspection functions, the Poultry Division administers the National Poultry Breeding Program (R.O.P.). This includes the home evaluation and development of breeding strains; the operation of a central testing station at Ottawa for meat and egg breeding stock; and Hatchery Approval.

Fruit and Vegetable Division

This Division administers regulations under the Canada Agricultural Products Standards Act, the Fruit, Vegetables and Honey Act, and the Maple Products Industry Act, as they apply to fresh and processed fruits and vegetables, and honey and maple products. In addition, the licensing of dealers and brokers in the fruit and vegetable trade is a responsibility of the Division.

Plant Products Division

The Plant Products Division is responsible for the administration of six different Acts: Seeds Act, Pest Control Products Act, Feeding Stuffs Act, Fertilizers Act, Hay and Straw Inspection Act, and Inspection and Sale Act.

The Seeds Act provides for grading: to prevent misrepresentation in the sale of seed; to allow buyers to purchase seed of known quality; to restrict the spread of weeds; and to prevent the importation of unsuitable seed. The Act also requires the licensing of new crop varieties before they are offered for sale in Canada.

Seeds are graded into two broad categories: pedigreed and commercial. With the former, inspection of the field crop and the inspection and sealing of the seed is done by or under the control of officers of the Division. Certificates of pedigree are issued by the Canadian Seed Growers Association. Commercial seed is graded by the trade and the Division carries on check inspections to ensure proper grading. Seed testing laboratories are maintained by the Division at seven locations across Canada.

The Pest Control Products Act, Feeding Stuffs Act, and Fertilizers Act require that pesticides, compounded feeds, and fertilizers must be registered under the specific Acts before they may be offered for sale in Canada. The several requirements for registration, labelling, and guarantees are set out in the Acts and regulations under them.

The Hay and Straw Inspection Act establishes grades for hay and straw and provides a grading and inspection service. The grades are not mandatory and the service is not used extensively.

The Inspection and Sale Act requires the labelling of all binder twine sold in Canada to show the number of feet of twine per pound and the name of the dealer. A check inspection is provided by the Division to ensure accuracy of labelling. The Act also provides for the grading and inspection of fibre flax.

The Plant Products Division is also responsible for the operation of a lime assistance policy provided jointly by the federal and provincial governments in Eastern Canada and British Columbia. To encourage the use of lime on acid soils the Department reimburses the provinces to the extent of 60 per cent of their outlay on cost of producing and transporting lime, up to a certain maximum.

Plant Protection Division

The Destructive Insect and Pest Act provides the statutory authority for the operations of this Division. One section of the Act involves measures to protect Canada against the introduction or spread of insects, pests, or diseases destructive to vegetation; the other covers the seed potato certification program.

Permits issued by the Division are required for the import of any plant material into Canada. All imported plant material is subject to inspection and may be destroyed or returned to country of origin if found to be infested. Permits are refused for importations from countries known to be infested with plant pests not found in Canada. Generally, the import of soil or plants with soil adhering is prohibited.

Fumigation of doubtful material is sometimes required and the Division operates two fumigation stations in addition to the commercial facilities available.

The Division inspects the holds of all ships which are to carry Canadian grain to foreign markets. When insect infestations are found, cleaning is required before the vessel may be loaded. This service contributes to the reputation of Canadian grain abroad.

The Seed Potato Certification Service involves inspection of crops during the growing season, followed by inspection of the tubers, to provide for disease-free tubers. Canadian Certified Seed Potatoes enjoy a good reputation on export markets and also contribute to improved yield and quality of the domestic crop.

General Service Division

This Division provides a consolidated grade inspection service in retail outlets in the main consuming markets. The service covers all the various commodities for which grading is required. Another function of the Division is the administration of the Cold Storage Act that provides assistance in the construction and equipping of public cold storage warehouses.

The Consumer Section of the Division provides a home economics service for the Department. It carries on work on the preparation, cooking, and acceptability of foods in various forms; develops recipes for the use of Canadian foods; and assists in promoting the use of foods that are temporarily overabundant.

The Markets Information Section, also part of the General Service Division, compiles and publishes market information supplied by field officers of the Branch working in the various commodity fields. Statistical series and other special compilations are also prepared for the use of Departmental officers and the general public.

Outside the Branch structure, but responsible to the Assistant Deputy Minister (Production and Marketing), are two boards and two administrations covering assistance programs. These are the Agricultural Stabilization Board, the Agricultural Products Board, the Prairie Farm Assistance Administration, and the Crop Insurance Administration.

SPECIAL ACTS BOARDS AND ADMINISTRATIONS

Agricultural Stabilization Board

This Board, established under the Agricultural Stabilization Act, administers a program of price support for agricultural commodities. Certain named commodities are required to be supported at not less than 80 per cent of the average price for the previous ten years. Other commodities may be supported at a percentage of the base price determined by the Governor in Council. The com-

modities "named" under the Act are cattle, hogs, sheep, butter, cheese, eggs, and wheat, oats, and barley not produced in the Wheat Board designated area. Support prices for named commodities remain in effect for 12 months, those for other commodities for such periods as Council may prescribe.

Two main methods of support are applied: outright purchase and deficiency payment. In current programs the purchase plan is used only with butter and cheese.

In the second plan, if the national average price for a commodity during the support year falls below the prescribed national support price, a deficiency payment is made to producers for each unit of the commodity marketed by that producer. Limits are placed on the quantities eligible for support; in the case of eggs, 10,000 dozen, and with hogs, 100 for each producer.

A third method of support is by direct payments to producers at a fixed rate. At present this applies to milk and cream used in manufacturing.

The Board is comprised of three members, all senior officers of the Department. It has a small staff but relies mainly on officers of the commodity divisions for the implementation of support programs.

Agricultural Products Board

This Board, established under the Agricultural Products Board Act, has broad authority to buy, sell, or import agricultural products. It deals with matters related to price support but not covered specifically by the Stabilization Act. From time to time the Board acts as the purchasing and holding agency for agricultural products in behalf of government, for such purposes as the World Food Program and international relief. Membership of the Board is identical with that of the Agricultural Stabilization Board.

Prairie Farm Assistance Administration

Under the Prairie Farm Assistance Act, provision is made for payments to farmers in certain areas of the West that suffer crop failure. Eligibility for payment is established on the basis of the average yield in a township, with provision for smaller areas under certain conditions. To be eligible, the average yield in the area must be less than 8 bushels. Three levels of payment are provided according to yield: 0 to 3 bushels per acre – $4 per acre; 3 to 5 bushels per acre – $3 per acre; 5 to 8 bushels per acre – $2 per acre. In addition, payment at the rate of $4 per acre may be made in certain areas where farmers are unable to seed or to summerfallow their land because of natural causes beyond their control.

Payment to a farmer is calculated on the basis of one-half of his total cultivated acreage, to a maximum of 200 acres. Municipalities are responsible for making application for crop inspection to determine eligibility of certain areas.

A levy of one per cent of the price received by farmers for all wheat, oats, barley, flax and rapeseed marketed through dealers licensed under the Canada Grain Act is collected and this money is applied to the payments required. Additional money is provided as needed by the Consolidated Revenue Fund.

The administrative headquarters are at Regina with a branch office at Edmonton. The Director operates with a small year-round staff and extra help is engaged during the inspection season.

Crop Insurance Administration

The Crop Insurance Act, as passed originally, permitted the Government to assist provincially operated crop insurance schemes in three ways. The federal government may contribute half the expense incurred by a province in the administration of a crop insurance scheme. It may reimburse a province for the share of farmers' premiums paid by it during the year, to a maximum of 25 per cent of the premiums. Or, it may lend to a province up to 75 per cent of the amount by which the indemnities required to be paid exceed the aggregate of premium receipts for that year, reserves for the payment of indemnities, and $200,000.

A later amendment to the Act provided that a province could reinsure a portion of its risk with the federal government. On payment of a reinsurance

premium by the province, Canada will pay 75 per cent of the amount by which indemnities required to be paid in a year exceed the premium receipts for that year, accumulated reserves for the payment of indemnities, and 2½ per cent of the total liability of the province under insurance policies in effect that year. Further, if in any year the total of the 2½ per cent liability assumed by the province in previous years and not repaid to the province exceeds 16⅔ per cent of the total liability in that year, only the premium receipts for the year, and the reserves, shall be deducted from the total indemnities in calculating the 75 per cent reinsurance obligation of Canada.

Eight provinces have passed crop insurance legislation, and one other has indicated an intention to do so.

HEALTH OF ANIMALS BRANCH

The Health of Animals Branch comprises three Divisions — Contagious Diseases, Meat Inspection, and Animal Pathology. Under the Assistant Deputy Minister (Production and Marketing) is the Veterinary Director General of the Branch. Each Division of the Branch is headed by a Director at Ottawa, under the Veterinary Director General. Work of the Contagious Diseases Division and the Meat Inspection Division in the field is administered by District Veterinarians, one for the four Atlantic Provinces and one for each of the other provinces.

Contagious Diseases Division

This Division operates under authority of the Animal Contagious Diseases Act, to control, eradicate, and prevent the introduction of infectious diseases of animals. Five main lines of work are involved: eradication of diseases not established in Canada; eradication of diseases established in Canada; control of diseases established in Canada; prevention of introduction of foreign diseases; and export certification.

Eradication of Diseases not Established in Canada — When outbreaks of such diseases occur, all animals on the infected premises and all animals that have been exposed to infection are slaughtered. Owners are paid compensation based on the market value of the animals.

Eradication of Diseases Established in Canada — Two approaches to this situation are taken: the one, a matter of testing and slaughter of infected animals; the other quarantine and treatment. In the main, the first approach applies to tuberculosis and brucellosis in cattle. All parts of Canada have now undergone testing for tuberculosis and every province comprises a TB Accredited Area.

Similarly, all provinces have been tested for brucellosis. All animals slaughtered under either of these control programs are compensated for up to a maximum of $140 for purebreds and $70 for grade cattle. In addition, the owner receives the carcass value of the animal.

Such diseases as mange are controlled by quarantine on the infected premises and treatment of the animals.

Control of Diseases Established in Canada — Where eradication is not feasible, as with rabies and anthrax, reported cases are investigated and quarantines applied to domestic animals. Exposed animals are vaccinated for anthrax. Domestic pets in danger of exposure to rabies are vaccinated.

Prevention of Introduction of Foreign Diseases — Control of imports is the method employed here. Any materials that might carry disease organisms from countries where serious animal diseases are present are either prohibited entry or are allowed in under safeguard regulations. Imports of animals are allowed only from countries where serious foreign diseases are adequately controlled. All imported animals are subject to certification, inspection or quarantine on arrival in Canada. Garbage from foreign ships and aircraft, likely to be a disease hazard, is controlled at seaports and international airports.

Export Certification — Health certificates on livestock exported from Canada, as required by the importing countries, are issued by the Contagious Diseases Division.

Meat Inspection Division

This Division administers the Canada Meat Inspection Act and the Humane Slaughter of Food Animals Act.

The Meat Inspection Act requires that all meat slaughtering and processing plants dealing in interprovincial or export trade must operate under federal veterinary inspection. In such plants, the Division provides resident inspection, either by veterinarians or by technicians under veterinary supervision. The plants must meet prescribed standards of construction and equipment to ensure sanitation and proper operation.

Animals slaughtered in inspected establishments are inspected before and after slaughter. Although the Act requires inspection only in those plants whose operations extend beyond a province, a number of others have voluntarily come under inspection.

Some 327 plants operate under the Meat Inspection Act and handle about 80 per cent of all meat and meat products produced in Canada. These products all carry the mark of the Meat Inspection Service.

The Division also has responsibility for the inspection of imported meats. Such imports may come only from countries that have a system of veterinary inspection equivalent to the Canadian system. When meat and meat food products are exported from Canada to countries that require inspection certificates, these are supplied by the Division.

Under the Humane Slaughter of Food Animals Act, methods of slaughter employed in plants under inspection must be in accord with humane practices. This involves adequate stunning of the animals by an approved method before shackling and hanging.

Animal Pathology Division

This Division carries on research into animal diseases, provides diagnostic services, and offers technical advice on biologics and pesticides. The work is done at the headquarters laboratory at Hull, Que., and at eight branch laboratories serving all sections of the country.

Research activities involve study of causative agents of animal diseases, methods of transmission, and the development of diagnostic tests. Diagnostic procedures are undertaken for all diseases of animals whether present in Canada or not.

ECONOMICS BRANCH

The Economics Branch is responsible for carrying out economic research and advisory services with respect to agriculture. It conducts economic surveys and undertakes the collection, analysis and interpretation of economic data to assist in the formulation and administration of Departmental policies and programs. It also provides economic information in published form for the use of extension workers and individual farmers in planning the organization and operation of farms.

The major components of the Economics Branch are the Office of the Director General, the Farm Economic Services Division, the Marketing and Trade Services Division, and three Regional Offices covering British Columbia, the Prairie Provinces, and the Atlantic region respectively. The responsibility for overall administration, co-ordination and liaison, together with research on agricultural policy developments, rests with the Office of the Director General.

Farm Economic Services Division

This Division is concerned with economic studies of problems relating directly to farm production. The principal areas of work are agricultural income and resources, farm organization and management and farm finance.

In its work on income and resources, the Division analyzes the components of the farming industry, including capital investment, income, and expenditure. It examines the relationship between agriculture and other sectors of the economy. It also assesses trends and effects of change in investment in real estate and inputs of labor and such capital items as machinery, fertilizers, seed stocks, and herbi-

cides in various types of farming areas, and studies the changes in productivity of farms and in the factors of production.

Studies in resources also cover the economic utilization of land, water, and human resources; cost-benefit analyses of resource development; land tenure and leasing arrangements; levels of living; and the relationship between resource management and income as a means of appraising proposed development programs.

Farm management is concerned with the application of business principles to farming. In this area, studies are carried out on costs and returns in the different types of farm enterprises and the effects of varying amounts of the more important production inputs on net farm income. A beginning has been made in the development of joint interdisciplinary research projects in co-operation with Research Branch establishments. Work is also being undertaken to develop improved methods of farm accounting and of farm management manuals and guidelines.

In the area of farm finance, studies are made of the use of credit in agriculture and of farmers' credit needs as a guide to changes in farm credit policies and facilities. Work is also carried on in the development of crop insurance programs.

Marketing and Trade Services Division

Matters relating to the distribution of Canadian agricultural products at home and abroad come under this Division. The major areas of study are international agriculture, commodity analysis and marketing operations.

The work of the international agriculture group involves a continuing review of the impact on Canadian agriculture of the policies of foreign governments relating to agriculture and of developments in international trade. It also assumes responsibility for liaison with the Food and Agriculture Organization and the Organization for Economic Development.

The commodity analysis group examines the supply, distribution and price situation and outlook for the principal agricultural products, conducts studies for the Agricultural Stabilization Board to assist in the formulation and administration of programs, and supervises the work of the Markets Information Section of the Production and Marketing Branch. It also undertakes research into long- and intermediate-term demand for selected farm products and keeps under continuous review changes in food consumption in Canada and developments relating to potential market outlets for Canadian farm products at home and abroad.

Work in the marketing operations area includes studies of market structure and costs, together with changes in market organization and the distribution of the consumer's dollar, designed to indicate the means of obtaining greater efficiency in marketing.

Continuing work is carried on in the field of market organization, including business management analysis of the operations of various types of co-operatives and of the operations of provincial marketing boards.

Regional Offices

These offices are concerned with regional studies of both production and marketing. In their program, priority is given to matters having implications for national or regional federal policies and programs. In some areas, much of the research is conducted in co-operation with provincial agencies and deals with problems having considerable local application.

INFORMATION DIVISION

This Division is, in effect, the mouthpiece of the Department. It maintains contact between the Department and the public, and carries on its work in two Sections — News and Publications.

The News Section makes direct contact with farmers of Canada through the medium of a Farm Letter. This is a periodical pamphlet that carries information on federal legislation and policies affecting farmers directly, and on market forecasts for Canadian agricultural products. It also announces Departmental publications.

The Section issues a weekly budget of newsworthy articles and pictures to the various news media. Background articles and reference papers are included for the guidance of news editors, along with market outlook forecasts.

Other news services include taped radio programs, television films, slide kits, and motion pictures.

The Publications Section is responsible for the editing, designing, and publishing of Departmental bulletins, pamphlets, and periodicals. The Section also carries on research into the effectiveness of these publications.

PRAIRIE FARM REHABILITATION ADMINISTRATION

This administration is headed by a Director who reports directly to the Deputy Minister of Agriculture. He has under him a Deputy Director and Chief, Land Use Service; a Chief Engineer; and a Chief, Water Development Service. Headquarters of the organization is in Regina; regional offices are in Winnipeg and Calgary. There is also a liaison office in Ottawa. Operations come under two broad categories: land use and water development.

Land Use Service

Under this Service the principal activity is the development of community pastures. Lands submarginal for grain production but suitable for grazing are leased from the provinces for conversion to pastures. PFRA pays the capital cost of developing the pastures and maintains and operates them. Fees collected from pasture patrons offset the operating costs. There are in operation 87 pastures with a fenced area of about 2.5 million acres. These provide summer grazing for 155,000 head of livestock. Uniform grazing fees apply to all pastures, six cents per day for cattle and four dollars per season for calves. The breeding service fee is five dollars per cow. Artificial insemination service is in operation on a number of the pastures and is introduced whenever the majority of patrons favor it.

Water Development Service

This involves financial and technical assistance in the construction of farm and community water conservation projects, as well as large water storage and irrigation works. Farm dugouts, stock watering dams, and small irrigation projects may be built privately with PFRA providing grants of $300 each for the first two and $600 for small irrigation projects. Community water projects involve the construction of dams and related works for storage of water to serve a community. Costs vary from a few thousand to several hundred thousand dollars and the projects are undertaken by agreement with provincial or local governments. Major irrigation and water control projects are constructed under cost sharing agreements with the provinces.

BOARD OF GRAIN COMMISSIONERS

This Board exercises general supervision over the handling of grain in Canada. There are three Commissioners, one of whom is Chief Commissioner, and four Assistant Commissioners, located at Edmonton, Saskatoon, Regina, and Winnipeg. Headquarters of the Board is at Winnipeg, Man.

The organization of the Board comprises six principal divisions: Executive, Inspection, Weighing, Statistics, Research, and Canadian Government Elevators. In addition, the Board constitutes Committees on Grain Standards and Grain Appeal Tribunals.

The Executive Division directs and co-ordinates the work of the whole organization to ensure the carrying out of the provisions of the Canada Grain Act.

Inspection Division

The Inspection Division has district offices at Montreal, Toronto, and Chatham in the Eastern Division, and at Fort William, Winnipeg, Saskatoon, Moose Jaw, Calgary, Edmonton, Medicine Hat, and Vancouver in the Western Division. Inspection staffs are also located at the Baie Comeau elevator in the East and at terminal elevators at Lethbridge, Prince Rupert, and Victoria, and seasonally at Churchill, in the West.

In the Western Division, the Inspection Division procures and grades samples from carlots of grain enroute from country points to any destination, at the primary inspection points of Winnipeg, Calgary, and Edmonton, when such samples are placed in the cars by operators of country elevators. Official samples are drawn and grades established for all grain received at terminal elevators and on most of the grain received in mill elevators at the Lakehead, Pacific Coast, Churchill, and interior points. Grain discharged from terminal and mill elevators is sampled and graded.

In the Eastern Division, sampling and inspection service is provided on request at Chatham and Toronto for Eastern-grown grain. All Canadian grain loaded for export at Montreal, Quebec, Sorel, Three Rivers, Baie Comeau, St. John, and Halifax is sampled and checked to establish the final grade. All grain in store in terminal and Eastern elevators is graded at the annual weighover of stocks.

It is also the duty of the Inspection Division to prepare tentative samples for the Committees on Grain Standards.

Weighing Division

The Weighing Division weighs all grain received at or shipped from licensed terminal elevators in the Western Division, and, as required, provides the same service at licensed mill elevators. Scales and equipment for transferring grain to and from the scales are inspected in all licensed Eastern, terminal, and mill elevators. Railway cars are examined at time of sampling or unload for evidence of leakage. The Division weighs over grain in every terminal and Eastern elevator at least once every 22 months and investigates complaints of shortages on out-turn weights.

Statistics Division

The Statistics Division publishes basic statistics relative to the handling and storage of grain within the Canadian elevator system, from reports received from all licensed elevators. Detailed analyses of elevator handlings and of the principal operations of the Board are prepared. The Statistics Division prepares audit statements covering the operations of the terminal, Eastern, and country elevators; verifies insurance carried on grain stocks; maintains records of lake freight rates on grain; and collects the one per cent levy under the Prairie Farm Assistance Act. The Division receives applications and issues licences for the operation of the various classes of elevators defined in the Canada Grain Act, as well as for track buyers, commission merchants, and grain dealers. Guarantee bonds are required as security covering the operations of licensees and their agents and these are supervised by the Statistics Division. A further responsibility is to register terminal and Eastern elevator warehouse receipts and transfer receipts for all grain received at terminal and Eastern elevators, to maintain records of stocks of grain in store at these elevators, and to cancel warehouse receipts on all shipments from these elevators.

Research Division

The Research Laboratory assists the Inspection Division with problems relating to the effects of degrading factors on the quality of the various grains and oil seeds. Each fall the Laboratory obtains and distributes information on the quality of current crops and of standard and standard export samples. Records are provided on the quality of all grades of Canadian grain, shipped and in store, throughout the crop year. The Laboratory also collaborates with plant breeders in the production and testing of new varieties, undertakes research on grain quality and on methods of measuring it, and maintains liaison with other institutions and organizations working with grain.

Canadian Government Elevators

The Canadian Government Elevators system operates as semi-public terminal elevators the five terminal elevators built by the Government at Moose Jaw,

Saskatoon, Lethbridge, Edmonton, and Calgary. It also operates the terminal elevator at Prince Rupert on the same basis.

Each year, in accord with provisions of the Canada Grain Act, the Board constitutes Committees on Grain Standards. Their duty is to select standard samples of each statutory grade, to name and define all such commercial grades as are thought advisable for the current crop year, and to select and settle samples representing the minimum of each such commercial grade. Grain Appeal Tribunals review the decisions of inspecting officers on the application of any person who is dissatisfied with the grade established by the inspector.

FARM CREDIT CORPORATION

The Farm Credit Corporation, established by Act of Parliament in 1959, is designed for the purpose of extending long-term mortgage credit to farmers. Five members comprise the Corporation, two of them officers of the Corporation and the other three senior officers of government departments. Head office of the Corporation is in Ottawa and there are seven branch offices, one for the Atlantic region and one in each of the other six provinces.

Funds for making credit loans are borrowed from the Minister of Finance and the amount of such borrowings may not exceed twenty-five times the capital of the Corporation.

The Corporation makes loans for a variety of purposes: to purchase land, livestock, machinery, seed or fertilizer; to erect buildings, clear, drain, irrigate, fence, or make any other improvement; to discharge liabilities; and for various other purposes. Loans are available only to farmers who are actually engaged or are shortly to be engaged in the operation of a mortgaged farm and whose experience, ability, and character are such as to warrant the belief that the farm to be mortgaged will be operated successfully. Rates of interest on loans are five per cent on the first $20,000 and somewhat higher on amounts in excess of that sum. Ordinary farm loans may not exceed 75 per cent of the appraised value of the farm lands on the security of which the loan is made. The total amount of such loans to any one person may not exceed $40,000.

Supervised loans may be made to persons between the ages of 21 and 45, who have had at least five years' experience in farming, and who submit a plan of operations satisfactory to the Corporation. Such loans are made on the security of a first mortgage on the farm lands and chattels, and are further secured by insurance on the life of the borrower. Amounts available on loans of this type may not exceed $55,000 or 75 per cent of the appraised value of the farm lands and chattels securing the loan.

Both ordinary farm loans and supervised loans are repayable within a period not exceeding 30 years.

Initially only borrowers under the supervised loan plan had life insurance to the amount of the loan under the Corporation's Group Life Insurance Plan. This service is now available to borrowers under the ordinary loan plan and an increasing number of borrowers are making use of the service.

The assistance that the Corporation staff can provide to borrowers in developing sound plans for investing capital in their farm business is an important part of the Corporation's service. The field and lending staffs are trained in the principles of farm management that are of primary importance in the financing of farms and the use of credit. The electronic farm accounting program introduced by the Corporation in 1963 provides useful data on costs and returns for various farm enterprises, in addition to furnishing accounting service to individual borrowers.

Under the Farm Machinery Syndicates Credit Act of 1966, the Corporation is empowered to make loans to groups or syndicates of farmers for the purchase of farm machinery. Loans up to 80 per cent of the value of the machinery may be made but the maximum loan may not exceed $15,000 for each member of the syndicate, or $100,000, whichever is the lesser. The repayment period varies according to the kind of machinery purchased and its accepted economic life.

The present rate of interest on these loans is based on the cost of funds to the Corporation and its expenses in servicing loans.

CANADIAN DAIRY COMMISSION

The Canadian Dairy Commission was established by Act of Parliament in October 1966. The Commission is appointed by the Governor in Council and consists of a chairman, a vice-chairman and one other member. The Commissioners are directly responsible to the Minister of Agriculture and their offices are in Ottawa. To assist the Commission with advice on production and marketing matters, there is a consultative committee of nine members, appointed by the Minister, who represent a variety of interests in the dairy industry.

The Commission is responsible for stabilizing the price of manufacturing milk and cream. By administering federal support funds, it regulates payments to milk and cream producers to give them a fair return for their labor and investment while at the same time ensuring consumers of a continuous and adequate supply of high-quality dairy products. It works closely with provincial agencies to coordinate national dairy policy and has authority over interprovincial and export trade. Under the Canadian Dairy Commission Act, it also has the power to buy and sell dairy products, make payments to producers, investigate the production, processing and marketing of dairy products, promote their use, and encourage improvements in their quality and variety.

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